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# FINANCIAL TIMES

No. 27,083

Monday September 27 1976

\*\*\*10p

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## NINE SUMMARS

### GENERAL

## 5 die in Syrian hotel battle

Four terrorists killed four hostages and wounded 34 others in a Damascus hotel yesterday before being overpowered by Syrian troops. An immediate Syrian claim that they belonged to Yasser Arafat's Fatah group of Palestinian commandos, was denied by the Palestinian movement.

One guerrilla was killed and his three companions—including one woman—were captured after the attack at the Semiramis hotel where the four terrorists had seized 80 hostages, among whom were women and children.

The terrorists were thought to be trying to force the release of several Palestinian prisoners held in Israel in exchange for the release of the four terrorists.

From dawn until shortly before noon the gunmen fought it out with the Syrian Army. Defence Minister Hafez Assad said the fighting personally intervened and the captured guerrillas after they were led from the hotel. Page 5

### Sarkis to seek to form Cabinet

President Sarkis of Lebanon is about to seek to form a Cabinet. He is also due to talk with Mr. Yasser Arafat, chairman of the Palestine Liberation Organisation, when Lebanese Palestinian relations outside the framework of Lebanon's crisis, are likely to be discussed. Page 5

### More defence jobs to go

Further cuts of at least 10 per cent in the civil manpower levels of the Ministry of Defence are included in a confidential management review report being studied by senior Whitehall officials. The cuts, chiefly involving senior staff, will mean nearly 3,000 fewer posts by 1979. Some axed appointments are at Deputy and Under-Secretary level. The scientific research and development establishment is likely to be particularly hard hit. Back Page

### Provos turn on peace movement

The Provisional IRA has made its first direct threat against members of Ulster's peace movement, warning that informers against Republican terrorists can expect to face the consequences. The threat followed the wounding of a woman member of the movement, Mr. Roy Mason, Northern Ireland Secretary, who is to make a policy statement today, is expected to cite the peace campaign as evidence of the lack of public support for the gunmen. Page 4

### Squatters claim army of 400

Squatters, who have been ordered by a High Court judge to leave the £200,000 former Kensington home of Tory MP Michael Heseltine by 10 a.m. today, said that they would fight if the bailiffs arrived. Four hundred people could be mobilised, they claimed. Page 2

### Mosque dispute

Police arrested two men during scuffles as 3,000 Muslims crowded into a disused East London warehouse yesterday. Dozens of police were on duty as 200 National Front demonstrators paraded in protest against a plan to turn the warehouse into a mosque. About 80 International Socialists staged a counter-march. Page 2

### Briefly...

The Royal Ballet on tour is to be known as the Sadler's Wells Royal Ballet after to-morrow night's opening of the Sadler's Wells season.

Birmingham Angling Association has won this year's National Angling Championship. Individual title goes to a Newark angler who caught a 28 lb. 2 oz. chub. Page 2

### BUSINESS

## Private steel plant decision

● CONSORTIUM of private steel companies is likely to announce whether it has chosen Jarrow Slake or Hartlepool as a site for a £50m. iron ore plant before the end of October. Back Page

The European Coal and Steel Community is making £10m. available for businesses taking on former steelworkers to help the BSC reduce its labour force. Page 30

● MR. JIM SLATER is interviewed for the first time since legal charges were laid against him when he appears to-day on the To-night TV programme at 11.05 p.m.

● CONSUMERS' confidence over their prospects was at its lowest point for the year at the beginning of this month, according to the British Market Research Bureau's latest survey of financial expectations. The FT Grocery Prices Index rose 4.1 per cent this month—led by higher meat, milk and potato prices. Page 34

● VOLVO has launched a middle-range three-door hatchback, the 1.4 litre 243, priced at £3,455 in the U.K. Volkswagen is starting production of a diesel engine version of the Golf this week. Mercedes range of seven compact cars comes onto the British market at prices ranging from £4,939 to £7,989. Page 4

### Singapore tries double-decker

● SINGAPORE is about to bring 20 Leyland double-decker buses into service for evaluation purposes. Taken with the recent purchase of eight trucks by N. S. S. the news could presage a new boost to overseas sales. Back Page and Page 4

● BRAZIL is about to sign a nuclear fuel contract with France, the Anglo-German-Dutch company, which should be worth up to £10m. a year to Britain throughout the 1980s. Back Page

● INDIA'S National Development Council has endorsed the final draft of the fifth Five Year Plan, which aims at annual growth of more than 6 per cent.

● NUMBER of official U.S. poor rose 2.5m. last year to 25.8m., the largest increase in a single year since the Government began keeping statistics in 1959. Page 5

● MADRID POST strike has spread to many other areas and a general strike has been called for the second time in a fortnight in the Basque provinces. Page 5

### Bank lending to industry up

● BANK LENDING to manufacturing industry rose by £581m. in the three months to mid-August, the first increase recorded since statistics were reorganised in May 1975. Back Page

### LABOUR

● EEC MEMBERSHIP has caused the loss of 1m. potential jobs claims the ASTMS in its quarterly economic review. It says a further 700,000 have been lost through U.K. private sector investment overseas. Page 8

● MR. JOE GORMLEY, president of the National Union of Mineworkers, has urged the introduction of a pit-based productivity scheme, similar to that rejected by national ballot two years ago. Page 5

### COMPANIES

● J. B. EASTWOOD chairman states that short of unexpected political activity nothing leads the company to expect any reduction in the profitable satisfactory level of profitability. Page 30

● NEEPSEND chairman says he cannot forecast any early improvement in trading. He is looking to the second half for an upturn in activities and earnings. Page 30

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# African presidents take a tough line

BY QUENTIN PEEL, FOREIGN STAFF

THE summit meeting of five African Presidents called to consider the U.S.-British peace initiative on Rhodesia yesterday left the future of the proposals in some doubt with a statement neither wholly accepting nor rejecting them.

Instead, they called on the British Government to convene a conference outside Rhodesia in order to establish a majority African transitional government there, rather than leave the process to bilateral contacts between the present Rhodesian régime and nationalist leaders. And they insisted that the structure of the government should be left for that conference to decide.

The statement issued in the Zambian capital, Lusaka, after talks between the so-called front Presidents—Nyerere of Tanzania, Kaunda of Zambia, Machel of Mozambique, Khama of Botswana and Neto of Angola—condemned the proposals for a majority rule put forward by U.S. Secretary of State, Dr. Henry Kissinger, as tantamount to legitimising the colonialist and racist structures of power.

In spite of its uncompromising tone, however, the statement was interpreted in London and Washington as a partial acceptance of

the peace package—at least as a basis for negotiation. Government sources in Rhodesia said the move did not necessarily threaten the current diplomatic initiatives, nor was it totally unexpected. But the Soviet news agency, Tass, said the five leaders had rejected the plan.

On Friday the Rhodesian Prime Minister, Mr. Ian Smith, agreed to terms for majority rule in Rhodesia within two years, on condition that international sanctions were lifted, and the guerrilla war waged by Rhodesian nationalists ceased.

The five Presidents are calling on Britain to convene at once a conference outside Rhodesia "with the authentic and legitimate representatives of the people."

## Reservations

First task of the conference would be to agree on the structure and functions of the transitional government—rather than accept the combination of a council of state, with 50-50 black and white participation, and a council of ministers, with majority African control, as set out by the Kissinger proposals and endorsed by Mr. Smith.

The conference, the Presidents

say, should then go on to establish the transitional government and establish the basis for a further constitutional conference ultimately to work out the constitution.

The President's tough line follows week-end condemnations of the Rhodesian proposals both from the guerrilla arm of the nationalist movement, ZIPA, and from Mr. Ndabasingwe Sithole, leader of the Zimbabwe African National Union, the rival organisation to Mr. Joshua Nkomo's Zimbabwe African People's Union. Mr. Nkomo, while expressing reservations over the Kissinger proposals, appears willing to accept the broad principles.

Mr. Sithole said the proposals had two "diabolical intentions": to instal a puppet régime; and to give Ian Smith a breathing space in which to consolidate his military, economic and international positions.

A statement broadcast over Radio Mozambique from the guerrillas declared: "The war is not finished." It said the guerrilla army was not fighting "to have a black Prime Minister installed in Salisbury while the machinery of oppression and exploitation remains intact."

The five Presidents also ended their statement with the declaration: "A luta continua"—Portuguese for "the struggle continues"—and they reaffirmed their commitment to the "cause of liberation in Zimbabwe and the armed struggle."

The British Government apparently is willing to play a role in bringing the two sides together in Rhodesia, although whether this would amount to convening a conference had not been confirmed last night.

The Foreign Secretary, Mr. Anthony Crosland, said that the Presidents had not rejected the entire package. "They have not slammed the door on the proposals Mr. Smith has made," he said. "Clearly they don't want to accept them in their entirety, but are willing to look at them as a basis for negotiation. I think this is quite reasonable."

Bridgeport Bloom writes from Salisbury: The Lusaka communiqué rejecting the terms of the U.S. package, at least as announced by the Rhodesian Premier, at this stage appears to be a tactical move designed to wrench more concessions from the white. Continued on Back Page

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President's statement, Page 5

## Prentice under fire

# Callaghan in attack on speech

BY RICHARD EVANS, LOBBY EDITOR, IN BLACKPOOL

MR. JAMES CALLAGHAN gave his Cabinet colleague Mr. Reg Prentice a furious dressing-down yesterday for inflicting Labour Party feelings on the eve of the annual conference at Blackpool when Government policies are certain to come under swinging attack from the Left wing.

The Prime Minister telephoned Mr. Prentice, Minister for Overseas Development, at his Blackpool hotel, and told him bluntly that a speech he planned to make could do great damage to the remarkably successful pre-conference efforts to neutralise the Left wing protest. The fear is that the Prentice speech, which attacked the party policy document, Labour's Programme, 1976, as being irrelevant to the country's needs, will trigger off a series of attacks on the start of a difficult conference for the Government.

So far, the signs are that the Government strategy of fending off Left-wing attacks is succeeding. First, Mr. Callaghan's forthright condemnation of the proposal to nationalise the major banks and insurance houses looks like ensuring that the plan does not get the necessary two-thirds majority to become party policy, when it comes before the conference on Thursday.

Second, the Left was thoroughly routed at yesterday's pre-conference meeting of the National Executive Committee, which decided what policy to adopt on conference resolutions. Two leading Left-wingers, Mrs. Barbara Castle and Mr. Frank Williams, were so discredited that they have declined to speak from the platform, as planned, on child benefits and housing, respectively. Their places will be taken by committee members who accept the majority decisions reached.

Third, the Left was soundly thrashed at yesterday's pre-conference meeting of the National Executive Committee, which decided what policy to adopt on conference resolutions. Two leading Left-wingers, Mrs. Barbara Castle and Mr. Frank Williams, were so discredited that they have declined to speak from the platform, as planned, on child benefits and housing, respectively. Their places will be taken by committee members who accept the majority decisions reached.

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## Irritant

There is no indication that Mr. Callaghan intends to sack Mr. Prentice in the immediate future, though he finds his presence in the Cabinet a growing irritant.

But Mr. Prentice was left in no doubt that further inflammatory attacks on party colleagues and policies will not be tolerated.

Many Ministers agree with much of what Mr. Prentice said—particularly his attack on the proposals to nationalise the major banks and insurance companies, which Mr. Callaghan has already described as an electoral albatross—but they disagree totally with his inflammatory attacks on party colleagues and policies.

Mr. Prentice, who intends to call on the Committee this week to back him in his fight for re-instatement as parliamentary candidate at Newham NE, criticised the Labour policy document on five main points:

1—It said little about the continuing battle against inflation and nothing about the future of the income policy.

2—There were far too many proposals for additional public spending, when the truth was that the country could not afford them.

3—There was too much talk about nationalisation, including generalised threats that would create "totalitarianism" and "concentration camps" and "work camps" and "the triumph of dogma over reason."

4—The proposals would mean a tidal wave of legislation and a host of new public bodies. "Why do the Transport House planners always confuse activity with action?"

5—Cut in defence spending were "totally irresponsible" and there was no discussion of strategic consequences.

An unrepentant Mr. Prentice commented after the Callaghan Blackpool feature, Page 10

## Refused

"I could not possibly stand up and tell conference to oppose this resolution. I carried the Child Benefit Act through Parliament and I could not recommend conference to strangle my baby."

It is understood that Mrs. Shirley Williams was also asked to speak for the Executive on

## The SAA Flying Hotel to Joburg



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## WORLD TRADE NEWS

## Trading off on imports

BY DAVID EGLI IN GENEVA

SELECTED import controls of the kind being called for by the TUC to protect key areas of British industry could become a less risky line of Government action in the future if proposals for a new international safeguards code are acted upon.

An important feature of the "basic elements" of such a code, proposed by the United States to other participants of the multilateral trade negotiations here, is that temporary protective measures to remedy serious injury to domestic producers caused by imports, could be applied without any risk of retaliation or the need to provide compensation to other countries' exporters.

The price to pay would be compliance with internationally agreed criteria for the application of safeguards and stronger guarantees that such measures are of a minimum and temporary nature.

Fear of retaliation under the present system has provided a strong incentive to Governments tempted to take safeguard action to avoid all reference to the existing system under GATT Article 19, but this rule has not obviated the risk of retaliatory or compensatory withdrawal of concessions from other trading partners.

The American proposals would, in effect, commit Governments to take a "broader and more responsible" view of how agreed international norms relate to their imposition of emergency protective measures. As such, it is not so much a tightening of the existing system as a restructuring to provide greater stability.

The proposals will come under discussion next month in the meeting of the safeguards group in the trade negotiations. Inevitably, they are linked to various other aspects of the negotiations and would depend

on the broader notion that Governments would be obliged both to notify and to consult in the GATT or elsewhere on the imposition of all trade restrictive actions.

An additional and most important element which spills beyond the work of this particular group is the idea that all tariffs can be bound at the end of the current round of trade negotiations. At present the ability of some countries to raise unbound

## As the world's trading nations continue to differ on import controls, answers are sought

tariffs provides a ready-made alternative to safeguard procedures, while the disparity in the degree of bindings as between trading partners results in a serious imbalance of obligations.

The proposed code would apply to all measures, including voluntary export restraints, imposed to provide domestic industries with temporary relief from injurious import competition. If governments made such moves in conformity with agreed criteria they would not be subject to retaliation, but retaliatory moves could be warranted if they stepped outside the code. The basic requirements of Article 19 of the GATT would remain but they would be reinforced in a variety of ways.

Close to the American heart is the idea of public domestic investigations where importers and other interested parties could present their views. In addition,

the temporary nature of safeguard action would be reinforced. Governments would be forced to spell out the duration of safeguard measures within a limited time and undertake not to reimpose the measures immediately they expire.

They would also be required to provide assurances that import relief would be phased down to the extent possible during the period of such relief to encourage the progressive adjustment of domestic industries.

Finally, any quantitative restrictions imposed would have to be limited to a level no lower than what was imported during "the most recent representative period."

Governments would be expected to encourage domestic industry to adjust and to describe to their trading partners through GATT, how such an adjustment process would contribute to the removal of the safeguard restrictions.

A standing committee might be set up, composed of several signatories of the code, to monitor the system and assure adherents that their problems would be examined rapidly thus enabling them to go ahead with timely safeguard action where it is agreed that this is necessary.

Where no consultation is deemed possible, the United States believes that it should occur "promptly after the final phase of the negotiations."

emergency action is taken." A whole-hearted commitment to a new system of this kind, it is felt, would through the established procedures for notification, consultation and monitoring help either to avoid disputes altogether or encourage their early resolution through a process of consultation.

A stronger safeguards code could provide a better balance between international obligations in this field and the inevitable determination of Governments to pursue a degree of freedom of action to cope with domestic problems. They would in any case have a far clearer idea of how far they could go in curbing imports while minimising the dangers of retaliatory action.

At present, compensatory withdrawal of concessions by other countries tends to encourage the permanence of safeguard actions leading to an escalation of beggar-my-neighbour policies.

One important issue which is not spelled out in the American proposals, and one on which the Europeans have so far failed to make up their minds, is that of selectivity. Should it be possible to apply safeguards on a selective or on a non-selective basis?

The proposals, which are in the final stages of negotiation, seem compatible with either approach.

More generally, the Europeans are hesitant about the overall notion of safeguards without retaliation which it is felt, could unbalance Article 19 in favour of countries which habitually resort to such action. The structure of a new safeguards code would, in any case, be tied in with progress on the tariff side of the multilateral trade negotiations. It would form a part of the overall package to be traded off in the final phase of the negotiations.

## HOME NEWS

## Provos threaten peace women after shooting campaigner

BY OUR BELFAST CORRESPONDENT

THE Provisional IRA has made its first direct threat against members of Ulster's peace movement, warning that any who informed on Republican terrorists would have to face the consequences.

The warning, issued by the Provos' Belfast brigade, is being seen as an attempt to forestall increased co-operation with the security forces stemming from the growing campaign against violence. The traditional IRA sentence on informers is death.

The statement followed the first serious attack on a member of the movement. A woman, Miss Mairéad Corrigan, 29, of north Belfast was wounded by a gunman's shot.

Miss Mairéad Corrigan, one of the peace leaders, said at the weekend that the "women of Ulster must be prepared to die

for peace. She was speaking at a rally in Glasgow at the same time as the Provos in Belfast issued their threat.

The Provos said: "If any of our volunteers are murdered or imprisoned as a result of co-operation between the British crime forces and other members of the peace movement, then these informers must be prepared to accept the consequences."

Mr. Roy Mason, Ulster Secretary, will make his first policy statement since his appointment to-day and is expected to point to the success of the peace campaign as evidence of the lack of public support for terrorism.

Mr. Mason's statement will come after one of the most violent week-ends in the province for some time, certainly since he replaced Mr. Rees.

A teenage girl and a 30-year-old man were murdered in separate incidents on Saturday night, bringing the death toll within 48 hours to five.

The teenager, who died after a gunman burst into her home in south Belfast and sprayed bullets at her father who had opened the door, was the second girl to die in the space of assassinations. A 17-year-old was killed on Friday while minding a neighbour's child.

There was no set pattern to the week-end killings, but they were clearly sectarian. Three of the victims were Protestants and two Roman Catholics.

Terrorists yesterday booby-trapped a rifle range used by members of the Ulster Defence Regiment in Co. Antrim. Two part-time soldiers were injured in the explosion, one seriously.

## Courage ending 'wet rent' system

By Kenneth Gooding, Industrial Correspondent

The Courage brewing group's 3,220 tenants are to have their public house rents raised by a total of about £4m, but they will be charged about 1p a pint less for beer.

The company, part of the Imperial group, is breaking away from the so-called "wet rent" system, traditional in the British brewing industry, by which pub tenants pay more for their beer than free-trade customers, but have their rents fixed at a comparatively low level.

The system, which dates back to the days when the main priority of the brewer was to sell as much beer as possible through his "dip" pubs, was condemned by the Monopolies Commission report on the industry in 1969.

Courage will follow Allied Breweries, the Ind Coope, Tetley and Ansell combine, and Watney, among the major brewers, in ending the system by November.

The move will help pub tenants to plan ahead and they will be able to enjoy lower beer prices from increased receipts.

For Courage, it will mean that rental income will fall in more even and it is hoped, the new system should attract a more businesslike approach by their tenants.

Courage is also introducing a phased rent structure intended to reduce the impact of short-term increases. Improved discounts, a wide range of wines and spirits, and the right for pub tenants to buy from the group's Arthur Cooper off-licence shops.

The new phased rent structure is, claims Courage, unique. The new rent will be agreed with tenants, and will be fixed for a three-year term. But the increase will be phased annually over the period.

Mr. David Shaw, retail trade director, comments: "In terms of brewer-tenant relationships this new rent policy is, in our view, the most progressive step taken by Courage for many years. The changes will provide a positive incentive for the good businessman now in our trade."

Overall, the Courage company is aiming to raise production from 280,000 in 1975 to 370,000 this year.

## One-pedal bus for London trial

By Peter Cartwright

LONDONERS may soon be riding on a Daimler Fleetline bus with a novel hydrostatic transmission, and one-pedal operation that puts British technology in this field ahead of known world developments.

The bus is being delivered towards the end of next month. The hydrostatic unit has been developed in collaboration by the Government-supported National Engineering Laboratory in Glasgow and Carron Hydraulics of Falkirk. Carron will soon be offering the hydrostatic units on a commercial basis.

The system, powered by a conventional diesel engine, incorporates a novel hydrostatic motor in the wheel, and a pump in the gearbox. Trials indicate acceleration and top speed are comparable with a conventional bus, and there are significant benefits in fuel saving, maintenance costs and life.

Several other hydraulic manufacturers, like GEC and Sunstrand in the U.S. and Sisu in Finland, are engaged in similar projects.

Avonley, Bedford, part of British Leyland's Special Road Vehicle Division, which makes road rollers and dump trucks, has also been associated with the development.

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## Volvo fills its market gap

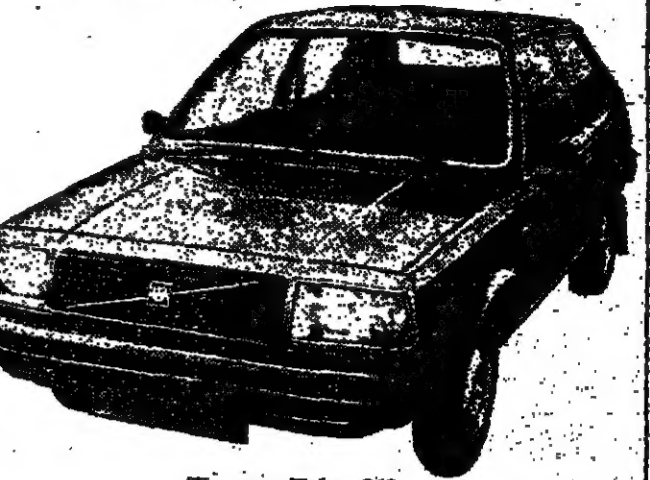
BY TERRY DODSWORTH, MOTOR INDUSTRY CORRESPONDENT

VOLVO, the Swedish car manufacturer, yesterday took a further step in its move towards a greater coverage of the market with the launch of a middle-range three-door hatchback. The new 1.4-litre 343, which fills a gap between the Volvo 66 and the 240 series, goes on the U.K. market priced at £3,455, including all taxes.

The reasoning behind the new car, the first of a new product line to come out of the former DAF plant in Holland since it was taken over by Volvo two years ago, is to give the Swedish company a greater degree of security when there are changes in the market. With its small range of large, Swedish-made vehicles, Volvo has been anchored in virtually one sector of the market.

The company is hoping that the new car, along with the 1.3-litre 66 model, will provide the cushion to a wider base which extends into the faster-selling product lines.

Like the larger Volvo cars, the 343 has been designed with a special emphasis on safety, including energy-absorbing crumple zones at front and rear. Automatic transmission, derived from the DAF variety, is standard, and the rear seats fold down with access from the rear.



The new Volvo 343

Other features include built-in detachable panels. Volvo claims a top speed of about 80 mph and an average fuel consumption of about 35 to 38 mpg from the Renault engine it uses in the car.

## New compacts from Mercedes

BY TERRY DODSWORTH

The new Mercedes range of compact cars, code-named the W123 and expected to take over the current 200 series within about a year, comes to the British market this week. Prices for the seven models, including three diesels, range from £4,939 to £7,989, an average 9 per cent increase on the current compact range.

The new compact, launched in Germany earlier in the year, in the new range by using the

company's five-cylinder three-litre engine. Mercedes is experiencing an overall shift of sales towards its compact range, and particularly towards diesel engines. In Britain there has also been a marked trend towards the 200 range.

Overall, the German company is aiming to raise production from 280,000 in 1975 to 370,000 this year.

## Diesel version of VW Golf

BY STUART MARSHALL

VOLKSWAGEN, Germany's largest car manufacturer, is going into production this week with a new diesel engine version of the Golf. The move brings a mass entry of the major European diesel market for the first time and challenges many of the well-established marketing concepts of the industry.

Like Mercedes, already devoting about 50 per cent of its production to diesels, VW is basing its marketing on the diesel's improved fuel consumption and lower pollution rating against the conventional petrol engine. The company will

turn out the diesel Golf from its Salzgitter factory at the rate of 100 a day, rising to 300 a day by January.

Its 1.5 litre diesel engine, which develops 50 hp at 5,000 rpm, uses most of the major parts of the 1.5 Golf petrol engine, including the cylinder block, crankshaft and camshaft. The cylinder head, although different from that of the petrol engine, is machined on the same transfer line.

Performance of the diesel is identical with that of the normal Golf 1100. It has a top speed of 87.5 mph and accelerates from 0 to 60 mph in 16.5 seconds but its 60 mpg fuel consumption in town-trail is half that of the petrol-engined car. On country roads it averages 45 mpg and 44 mpg on the motorway.

The diesel Golf's price is about 15 per cent higher than a petrol equivalent. When it reaches Britain in the New Year it will cost about £350 more than the petrol-engined Golf models. In theory this would price a basic three-door Golf to-day at about £2,200-£1,000 less than the next cheapest diesel car, the Peugeot 504.

## Government 'should stop rail surgery'

Financial Times Reporter

THE GOVERNMENT should co-operate with the motor industry to improve commercial vehicle technology rather than bring in more punitive restrictions on lorries, and it should stop its drastic surgery of the railway network.

These are among the main conclusions of the Association of British Chambers of Commerce's Green Paper on transport policy.

In its paper, published to-day, the association says the Green Paper "fails completely" to make the necessary relationship of transport policy to regional, urban and environmental policies, as well as "other political and social considerations such as the influence on land values."

There was also a need to determine appropriate levels for Exchequer expenditure on the railway deficit and the road programme. "It would be an improvement if the total so spent were correlated explicitly to Exchequer revenue from transport."

The association describes the policy of railway surgery as "over-zealous, unsuccessful and discredited," and says that commercial initiative within the BR management has been inhibited by the constraints of nationalisation. There should be a change in ownership and control of the industry.

Mr. Timothy Raison, Opposition spokesman on the Environment, said at the weekend that the creation of the new Department of Transport has raised fears that "the planning and environmental aspects of road policy will be neglected."

## Engineering company cuts workforce by a third

AN engineering company is to machinery. The announcement is a blow to the city of Peterborough, which is in the middle of a £700m. expansion plan because of a drop in orders at aimed at doubling its size by 1981.

Mr. Bill Gardner, chairman, said yesterday: "We shall try to soften the blow with early retirement and natural wastage but there will be the possibility of short-time working. This is a blow but we hope to recover with a more economic climate."

The company manufactures turbo generators, nylon spinning equipment and other specialised machinery.

The announcement came at the weekend two days after the company announced a record profit last year of more than £1m.

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## TEXTILE NOTES

## Concern on carpets

BY RHYTH DAVID

BRITAIN'S carpet manufacturers could soon be facing renewed problems in Australia, its biggest single export market, in the first six months of this year, if moves now being made by the domestic industry to secure controls over imports are successful.

Australian manufacturers are now awaiting the findings of a report being carried out on their behalf by the School of Business Studies in Melbourne and P.A. Management Consultants, and it is likely to form the basis of a submission to be presented to the Government-backed Industries Assistance Commission.

If the industry's case is accepted the Government will be asked to impose global ceilings on imports of carpets, following the pattern already established in other textile sectors.

The industry is basing its case on claims that substantial over-capacity now exists within the Australian carpet industry as a result of investment in tufting plants, and that with manufacturers from other countries, notably New Zealand, Britain and the U.S., selling carpets at very competitive prices, the domestic manufacturers have been able to make only a very poor return on capital.

Australian manufacturers had around 63 per cent of the market in tufted carpets in 1974-75, an improvement on the previous year when imports seized around 34 per cent, but down on 1972-73 when the Australian industry's share was 57 per cent.

Through a number of U.K. manufacturers, including Carpets International and Britons manufacture in Australia, where a strong demand exists for traditional British-style carpets, substantial quantities of carpet are also exported directly from the U.K.

In the first six months of this year total exports came to 1.7m square metres valued at £5.3m. Britain's next best market, the U.S., valued its imports at £5.8m, and Ireland, £5.3m.

The new moves—which follow a period of quota control on carpets imports in Australia last year—were revealed in London by Mr. John Burgess, director of the Textile Council for Australia, who has been in Britain for talks with British textile leaders on the negotiation of the GATT Multi-Fibre Arrangement due to take place at the end of next year.

Mr. Burgess also indicated that Australia is likely to stick to its present approach to the MFA—the subject of considerable criticism by textile exporting nations around the world—when the talks start.

While the EEC countries have generally stuck to the letter of the MFA, granting textile suppliers increases of around 6 per cent per annum in imports, growth, where restrictions have been introduced, the Australians have invoked other GATT rules to justify the introduction of global tariff quotas covering a number of products.

Under these, fixed ceilings are set where the industry is able to persuade an independent tribunal that disruption is being caused to the domestic industry, and goods imported over and above the ceiling are subject to tariff.

The initial tariff free quota is divided among the supplying countries on the basis of past export performance in the Australian market. The Textile Council for Australia is suggesting the tariff system as the basis for the next stage of the MFA.

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## Market for double-decker buses poised for boost

BY TERRY DODSWORTH, MOTOR INDUSTRY CORRESPONDENT

NEW YORK'S purchase of eight double-deck buses from British Leyland could mark the beginning of an important new phase in the commercial vehicle industry.

The significance of the deal is that it may create the first major new market for double-deck buses for many years, thus giving a boost to an industry in which Britain is an acknowledged world leader.

Confirmation that there is a quickening of interest in the business comes with the news, carefully concealed until now, that Singapore is also shortly to bring into service 50 Leyland double-deckers.

Leyland officials are not, at present, getting unduly excited about these prospects. Double-deck bus sales have, over the years, grown inured to the disappointments of watching initial enthusiasm for the product wane into rejection once the snags have been evaluated.

What the vehicle offers is an extremely efficient use of seated passenger space per square foot of roadway; but it usually demands a substantial alteration of the urban landscape. Leyland officials are not, at present, getting unduly excited about these prospects.

Once a city decides on double-deckers, however, Leyland is on the inside track for the business. It is today the only large-scale manufacturer of double-deckers in the world. In overseas markets competition is virtually limited to MAN, the West German company, which has made some vehicles for Berlin, and Neoplan, another German concern, which has designed a fleet derived from open-top tourist buses for San Francisco.

Since U.K. cities make much greater use of double-deckers than the rest of the world (New York used to run a fleet but abandoned them about 20 years ago), world demand is concentrated in Britain.

This market has been running at about 2,000 units a year, an increase of 700 per cent since 1961. In that period the Western countries' turnover with socialist countries rose to \$83.4m, an increase of 700 per cent, while intra-Western trade reached \$742.7m, a rise of 560 per cent.

But this increase was not large enough to make much difference to the relative importance of East-West trade to Western countries. In 1961, trade with the socialist countries accounted for 8 per cent of the Western countries' total trade. In 1975 it was 9 per cent.

The figures illustrate the large and growing imbalance in East-West trade, with the Western countries exporting more than they import. The last year in which the socialists showed a trade surplus was in 1969—of \$485m. By 1975 their deficit had widened to \$8.9m, and showed a consistently deteriorating trend.

In the last five years, Western exports rose 240 per cent, but imports only 180 per cent. Moscow Narodny Bank, which is Soviet-owned, offers no comment in the figures, but says there were definitional problems

in putting the table together which were resolved by drawing on several different sets of trade returns.

The gathering at the National Exhibition Centre got off to a flying start last week with the news that Poland had placed orders for £24m of U.K. machinery intended for the expansion of its automotive and tractor industries.

The East European orders, plus the gains from MACR 76, will give a much needed boost to the U.K. machine tool industry, where orders on hand had shrunk to a near all time low in real terms this year.

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## Exhibition orders rise

By Arthur Smith

ONE THIRD of the orders won by U.K. companies at the international machine tool exhibition in Birmingham were for exports. Some 15 companies have already confirmed orders totalling £1.84m, including one from the Soviet Union and Romania worth £250,000, and a similar sized order from Spain.

The Machine Tool Trades Association said that the orders made public represented "only the tip of the iceberg."

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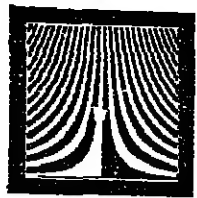
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# The Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHOTTERS

## RADIO & TELEVISION

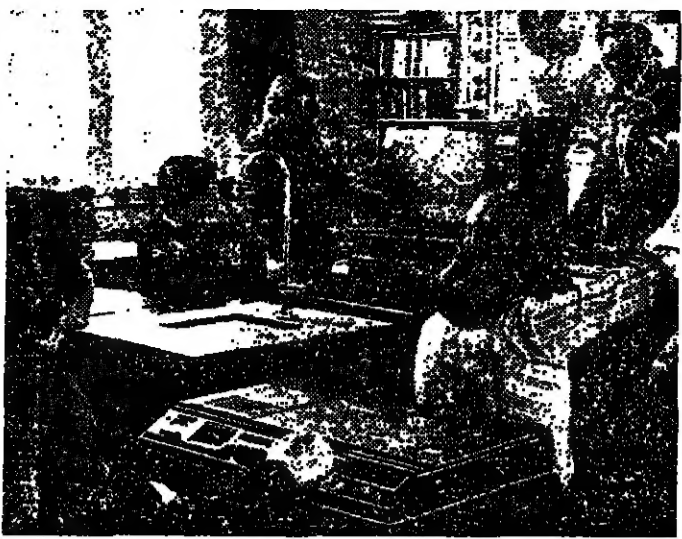
### Recording bright and sharp

A RE-DESIGNED version of the Philips VCR videocassette machine is to be launched in October. For the first time since its introduction in 1971, the VCR takes the NTSC on a slightly changed appearance and also incorporates a number of technical improvements and extra facilities.

The automatic clock, by which recordings of broadcast TV programmes can be pre-set, is replaced by a light-emitting diode with digital time display. This can now be set up to three days in advance and has its own standby battery in case of temporary mains failure.

Cassette loading in the NTSC02 is greatly improved and now follows more closely the binged loading principle of the compact audio cassette. A protective flap on the cassette itself, covering the videotape where it will engage the recorder heads, is automatically opened when the cassette is loaded and closed when it is removed from the machine after use. In practice, this may well lengthen the life of tapes.

Various improvements have been made in the design and function of operational controls, and the power consumption of the VCR has been reduced from 115 watts to 60 watts. Overall bandwidth for colour has been increased from 2.7 MHz to 3.00



MHz and new techniques employed to improve picture sharpness. Accessibility for servicing has also been greatly simplified. Subjectively, picture quality of the NTSC02 VCR is now as good as any domestic user could wish to see—indeed, it yields pictures and most views suffer from broadcast TV produced via badly-adjusted receivers and aerials.

Price of the NTSC02 will be

about £390 inc. VAT. Philips claims that 28,000 VCRs are now in use throughout the U.K. With rival formats such as the Sony U-Matic and National Panasonic, this indicates that the total U.K. population of videocassette machines is now approaching half the total of 16-mm. projectors. In just five years, this is a significant challenge to the future of 16-mm. film.

JOHN CHITCOCK

## COMMUNICATIONS

### Radio aids for London Brigade

ONE of the few remaining British-owned mobile radio manufacturers, Burndeft Electronics (ER) has scored a success at the Home Office with the sale of 500 UHF hand portables for the use of the London Fire Brigade.

Units have been on trial for six months by the Brigade, which will now use them to improve fire-fighting effectiveness by greatly improving communications around the fireground and between fireground and the rest of the brigade.

Two types, BE45C and 464 have been ordered, operating in the 446 to 470 MHz band with wide-band switching in the transmitter section over 6 MHz permitting single or double frequency operation on a single set. The BE45C is a two-channel unit with one channel for single frequency or system. It then working and the other for two becomes easier to compare month

frequency. BE45C is a three-channel unit two of which are for single frequency work and the other for double frequency. The latter type is intended for use by supervisory officers to give them an extra channel to talk to other parts of the brigade or headquarters. Burndeft is at St. Fidelis Road, Erith, Kent DA5 1AU (Erith 39121).

## ENERGY

### Watch on fuel use

A PROBLEM in assessing the effect of heat saving methods, mainly in reduction of energy loss from the building by improved insulation technique, is that external temperatures cloud the result.

These can be accounted for by employing the degree-day concept giving rise to a constant value—heat per degree-day—for channel for single frequency or system. It then working and the other for two becomes easier to compare month

by month control and year by year progress.

However, under present conditions it is often not possible to allocate suitable staff to obtain the necessary data day by day

and the Institution of Plant Engineers has therefore started a new service. For an annual subscription of £45 an analysis will be provided of monthly fuel consumption to give a characteristic figure of heat per unit volume (or area) per degree day.

Special rates are negotiable where more than ten sites are enrolled. More from 188, Buckingham Palace Road, or from the company administering the scheme: Environmental Communications Associates, 23 F. Moore from Igronic Works, Station Approach, Hayes, Kent (01-482 7314).

Standard measurement is at 30 inches mercury pressure, 60 deg F and saturated, but results can be yielded at other gas standards.

The calorimeter is a self-sufficient instrument requiring no arbitrary settings from other calorimeter readings. Testing means are provided in the unit to check its accuracy but once properly set up the calibration is maintained for long periods.

Guaranteed accuracy is  $\pm 0.5$  per cent of full scale when the room and tank water temperature are stable between 60 and 85 deg. F. More from Igronic Works, Station Approach, Hayes, Kent (01-482 7314).

## POLLUTION

### Bacterial attack on chemicals

PHENOBAC is a powdered bio-chemical agent which will reduce the harmful effects on the environment of a range of oils and oil products, as well as toxic and non-toxic organic wastes. It is a multi-purpose natural degrading and deodorising agent used with fresh water supplies. It contains in excess of  $2 \times 10^9$  micro-organisms per gramme. The mutant bacteria will biologically degrade such common products as benzene, petrol, cyanides, phenols, lubricating oils, naphthalene and amines.

Fospur, Alfreton Industrial Estate, Nottingham Road, Somercotes, Derbs. DE5 4LR. 077-354 4325.

## INSTRUMENTS

### Recording calorimeter

INTRODUCED into the European market by Cutler-Hammer Europe of Bedford is a unit that will determine, indicate and permanently record the calorific value of any gaseous fuel.

There are two parts: a tank unit in which the calorific value is measured and an electronic recorder unit which translates the measurements into either BU or Megajoules and records them graphically.

Standard measurement is at 30 inches mercury pressure, 60 deg F and saturated, but results can be yielded at other gas standards.

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## COMPUTING

### Centre-File expansion

A FLURRY of activity at Centre-File (National Westminster Bank) last week brought news of an acquisition, a tie-up with a group of European service bureaux and strong rumours that a major London broker had decided to abandon his own computer in favour of the Centre-File on-line stockbroker service.

The acquisition is of Bellard Investments, one of the longest-established bureaux in London with a reputation for getting its jobs done reliably and without fuss. It will add about £1m. a year to Centre-File's £45m. turnover and there are few overlaps.

The European connection is with six other groups in Belgium, France, Finland, Germany, the Netherlands and Norway. One of the most noteworthy points in the charter of the association is the commitment to work closely together in markets and on jobs which can better be served by joint operations. The companies will also co-ordinate their long-term strategies.

Centre-File is on 01-638 6161.

### Prints fast with micro

TALLY has added a microprocessor to its T1000 needle printer to produce an improvement in performance of two to three times in terms of throughput.

Basic features remain a 7 dot matrix format, 120 characters per second operation, simple interfacing and multi-copy ability. In addition, however, the new machine, T1202, incorporates a microprocessor controlled stepper motor drive which always selects the optimum path to the next print operation. This optimised bi-directional motion completely eliminates the time consuming carriage returns normally needed and speeds up the machine's throughput.

Tally is at 7 Crenell Road, Reading RG1 8NQ (Reading 550411).

### Cleans data cassettes

ACCORDING to Saggiorn Investments a good deal of unnecessary cost is borne by data cassette users because errors begin to appear on the tape, frequently they discard it, having re-established the data on a fresh cassette.

The company—a new one started by two executives from the Flexidata organisation—is introducing into the U.K. a

Japanese cassette cleaner which will clean the tape with the data on it and remove almost all the errors due to dirt and debris. CI-400 cleans on the forward pass and precision rewinds on the reverse pass. Completion of cleaning which takes about three minutes, is indicated by a lamp. To use, the operator simply switches the power on, inserts the cassette and pushes the "clean" button.

Cleaning is mainly by a sapphire blade which scrapes the contaminants from the tape surface; the debris produced, together with any other particles—including those adhering electrostatically—is then removed by an air sucking action applied to both sides of the tape, plus tissue applied automatically from a small cassette. More from Suite 2, Green Dragon House, High Street, Croxson (01-681 7237).

## MATERIALS

### Glass fibre cloth unit

A DUTCH company has succeeded in developing a unit with which it is possible to manufacture glass fibre fabric cheaply by the "wet" method.

The unit consists of a number of sections one for the mixing of fibreglass with purified water, one for the formation of the fabric by water separation, a binder section with a binder-cycling system, a drying section and a section in which the finished product is wound into rolls.

The glass fibres are fed in pieces measuring between 10 and 18 mm in length via a pipeline into two mixing vessels and then mixed intensively until a suspension with the desired concentration of glass fibres is produced. The suspension is then transported to a collecting tank in which it is kept in motion. Part of the water is then removed from the suspension, the surplus water drains through the conveyor and is returned to a water recycle tank.

The damp fabric is passed over a series of rollers rotating in vessels containing the binder. Because the fabric is damp and porous, the binder is absorbed by capillary action in the fabric. From the binder section the fabric passes across a steel gauge belt into the drying section, where the remaining water is evaporated using hot air; the resultant structure of the finished product is such as to ensure good absorption of bitumen, etc.

When it leaves the drying section the fibreglass fabric is formed on a winding machine into rolls containing between

1,500 and 2,500 metres of fabric. This new unit can produce fibreglass fabric with a width of between 20 and 200 grams per square metre. The tensile strength is 15 kg/cm<sup>2</sup> for 50 gr/m<sup>2</sup> and 20 kg/cm<sup>2</sup> for 100 gr/m<sup>2</sup>. The entire unit can be operated by two or three persons and can produce up to 3,500 m<sup>2</sup> of fibreglass fabric per hour per machine width. The floor area required, including the space for the storage of raw material, is approximately 1,500 m<sup>2</sup>. Power consumption is 150 kW per metre machine width.

Adco International, Kastanjelaan 48, Arnhem, Holland.

## PROCESS

### Simplified cooling

REFRIGERATION with no moving equipment other than a fan operates on the basis of evaporative cooling tubes filled with a patented cooling mass.

The tubes can be joined together into sections which are simple to install in refrigerated spaces. The size of the sections can be varied to suit the means of transport and the temperature desired.

Two types of refrigeration and freezer units are manufactured, a roof unit with natural air circulation and a fan unit which works with forced air cooling. In the roof unit the evaporative cooling tubes are attached to the roof of the vehicle body and in the fan unit the tubes are joined together. The entire unit is connected to lines from a refrigeration compressor located on or beneath the vehicle, the electric motor of which can be driven from the power mains at night. The cold produced during the night in the cooling tubes

and used during the day to refrigerate the goods area. The natural air circulation in this space is achieved by the difference in the specific gravity of warm and cold air. This roof cooling system is particularly suitable for vehicle bodies with small side doors or when the doors are opened infrequently. The design of these units, however, is such that they cannot be controlled by fan unit, cold continuously.

With the fan units the cooling tubes are not attached to the roof but to the front wall of the vehicle body, from which they are separated by a partition. In the partition there are one or more thermostatically controlled fans, the drive of which is fed by the vehicle battery. The air in the vehicle is circulated by the fans taken in by the refrigeration units and returned to the goods area until the desired temperature is attained. The high air circulation speeds give the unit a high refrigeration capacity, so that after the doors have been opened the temperature quickly returns to a pre-set level. The use of the special cooling mass in the tubes guarantees uninterrupted emission of cold over a long period and avoids unpleasant surprises for example due to failure of the compressor during transport.

Vannes B.V., Beeklaan 24, Dijk, Post 1660, Hillegom, the night in the cooling tubes

Holland.

## PLANT & MACHINERY SALES

Description	Price	Telephone
1974 TEN STAND roll forming line by Hunter-Douglas. Virtually unused. Capacity 200 mm x 2 mm M.S. strip complete with automatic cut-to-length equipment.	P.O.A.	021-556 0904 Telex 336414
25 TON ROLLING MILL for flattening wire and rolling narrow strip. Complete with edging rolls and recoller.	P.O.A.	021-556 0904 Telex 336414
MODERN USED ROLLING MILLS, wire rod and cube drawing plant—roll forming machines—flattening—buckling and cut-to-length lines—cold saws—presses—pulling lines, etc.	P.O.A.	021-556 0904 Telex 336414
1970 HERSCHELT 100 KW double vacuum annealing plant useful charge area 625 mm dia x 2000 mm loading height output 600 lb per 24 hours.	P.O.A.	021-556 0904 Telex 336414
1974 FULLY AUTOMATED COLD SAW by Noble & Lund with batch control for cutting non-ferrous bar. Max capacity 50 mm and square.	P.O.A.	021-556 0904 Telex 336414
1976 CUT-TO-LENGTH LINE max capacity 1000 mm x 2 mm x 7 mm coil fully overhauled and in excellent condition.	P.O.A.	021-556 0904 Telex 336414
1965 TREBLE DRAFT GRAVITY WIRE DRAWING machine by Farmer Norton, 27" x 29" x 31" diameter drawblocks.	P.O.A.	021-556 0904 Telex 336414
TWO 1 TON CAPACITY ALUX WYATT type 150 kW melting furnaces.	P.O.A.	Telex 336414
CATERPILLAR 140 MOTOR GRADER, complete with new tyres.	£25,500	Telex 51187
CATERPILLAR 96C WHEEL LOADER, with 3 cu. yd. bucket and new tyres.	£25,500	094-34 4531 Telex 51187
AKRON BATCH OFF MACHINE	£2,750 x works	01-253 6000 Telex 666343

Auction of Machine Tools and Equipment by Norman Levy Assoc. O'Leary Inc. in Leicester, Wed./Thurs. 29/30 Sept. Telephone for Illustrated Brochure.	01-839 5151
MACHINING CENTRE, capacity 5 ft. x 4 ft. x 3 ft. 5 Axis, continuous path. 51 automatic tool changes. 5 tons main table load. Main motor 27 h.p. in almost new condition.	P.O.A. 01-928 3131
VICKERS 200 TON PRESS BED 40" x 36" almost new condition.	P.O.A. 01-928 3131
SCHULER 200 TON HIGH SPEED PRESS BED 48" x 40" 2005 P.M.	P.O.A. 01-928 3131
Double Roll Feed. Excellent condition.	P.O.A. 01-928 3131
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ANKERWERK 400 TON INJECTION MOULDER. Reconditioned.	P.O.A. 01-928 3131
BLANCHARD NO. 11 VERTICAL SPINDLE SURFACE GRINDER 18" dia. Magnetic Chuck. Rebuilt.	P.O.A. 01-928 3131
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International invitation for prequalification

Société Nigérienne d'Electricité (NIGEELEC) intends to launch, in the near future, a call for tender, for the construction of high and medium tension, transmission lines and switchyards, associated with the thermal power plant of ANOU-ARAREN, near AGADES. Design and control of work are entrusted to ELECTRICITE DE FRANCE-DIRECTION DES AFFAIRES EXTERIEURES ET DE LA CO-OPERATION (EDF-DAFECO).

The equipment will comprise:

- One 132 kV, 180 km long, transmission line, linking the ANOU-ARAREN site to the AKOKAN Centre;
- One 132 kV switchyard at ANOU-ARAREN;
- One 132/20 kV switchyard at AKOKAN;
- One 20 kV, 45 km long, transmission line, linking the ANOU-ARAREN site to AGADES town.

All civil engineering works, supply of equipment and transportation, erection and start-up should be included in a single offer. To this offer may be added a financial proposal either from the tenderers, or from their country's financial institutions.

The interested companies must apply both to: SOCIETE NIGERIENNE D'ELECTRICITE B.P. 202 NIAMEY—Republic of NIGER and to:

E.D.F.-DAFECO 68, rue du Faubourg Saint-Honoré 75008—PARIS (France)

before October 15th, 1976, giving their references of similar installations supplied, on a turn-key basis, particularly in tropical countries.

In the second half of October 1976, the tender file will be sent to the selected companies and their tender should be received before February 1st, 1977.

## Government of the Yemen Arab Republic (Y.A.R.) Ministry of Education IDA Education Project, Sana'a, Tender for Educational Equipment and Furniture

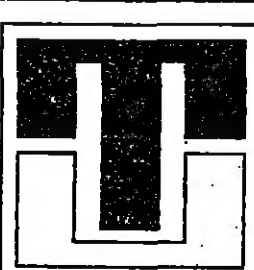
Following to advertisement published in Financial Times on July 27, 1976 concerning the tenders for educational equipment and furniture for which the date of availability of obtaining the bid documents was July 31, 1976 and the opening date is Nov. 30, 1976.

It is decided to change the mentioned dates to be Sept. 1, 1976 for obtaining bid documents and Dec. 31, 1976 as the closing date. For any further information, please contact the project director at the following address:

Ministry of Education Implementation Unit IDA Education Project P.O. Box 96, Sana'a Yemen Arab Republic

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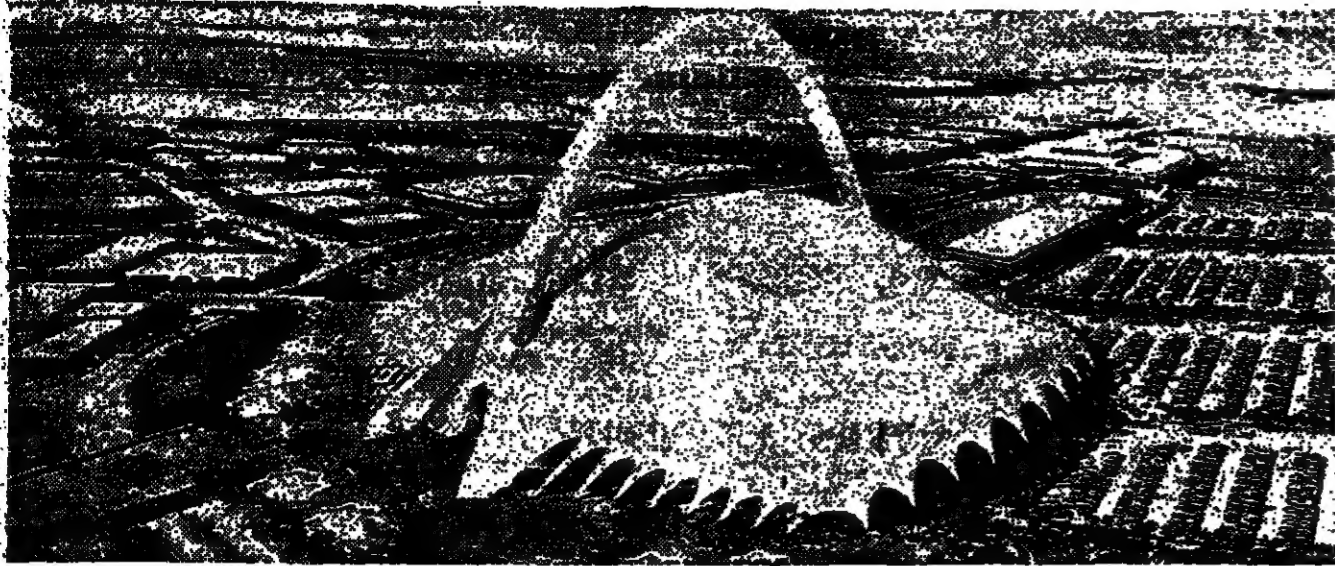


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مبنى من الاصل



# Building and Civil Engineering



## Riyadh stadium project

EVER, in Britain or else, sets a share of the £200m. contracts which may be before the end of the year the construction of the stadium.

diose Riyadh Olympic sports complex—an artist's impression of which—conveys something of what it will ultimately be—the fact remains that British consultants and designers have played the major role in its conception and will continue to guide contractors who will be operating on site till 1982.

Within about a fortnight, the full documents will be in Riyadh for the consideration of Prince Faisal, president of the Saudi Arabian Youth Welfare General Presidency.

The next step will be the calling of international tenders for

the various stages of the scheme, which requires a total building area of 2.2m. square feet, with 570,000 square feet of seating for 80,000 people.

Key to the design is the arch with its world record height of 716 feet and span of 1,238 feet but a remarkable feature also will be the immense cable net roof covering 1,385m. square feet, the largest ever attempted anywhere.

It has been calculated that the supports for this roof—steel-framed, spine trusses—framework for the arch and supporting structure will require 27,000 tons of steelwork and that

108 miles of steel cable will be installed.

Safety aspects have not been ignored and the vast arena has been laid out in such a way that it can be evacuated in seven minutes, a mere fraction of contemporary Olympic stadia and in conformity with current British practice.

There will be parking for 5,000 vehicles, Royal Family and VIP accommodation, public facilities and a Mosque.

Architects are Ian Fraser, John Roberts and Partners; engineers, White, Young and Partners; and quantity surveyors Silk and Frazier.

## Road cracks prevented

USE OF a layer of glass-fibre reinforced cement has been shown over necessarily lengthy trials in laboratory testing since 1967, and trunk and principal roads since 1971 to have remarkable effects in that cracks have been bridged and sealed and car/vibration vibrations drastically reduced which means a longer life for the subgrade and the materials used in construction.

This is a U.K. invention which should have world-wide effects. April 1976, results of sampling, coring and deflection testing have given rise to much optimism as there are no cracks in the GRC section as have occurred in the sections without GRC treatment. Carriageway deflections under various dynamic loads have shown a mean reduction of 65 per cent.

One trial on a trunk road has produced results over the last three years which have proved sufficiently encouraging to warrant the limited use under control of the GRC technique at selected sites elsewhere on trunk roads.

The situation is ripe for local authorities to seek advice on repairing bases, joints and preparing reinstatements with 10-12 mm GRC which prevents water ingress and disintegration of the carriageway base structure.

GRC is available in pre-mixed form in 25 kg bags from APCM (Fibrocem), Portland House, Stag Place, London S.W.1. (01-828 3458.)

The technique has been patented in the U.K. and U.S. The National Research Development Corporation holds the world patents for the AR glass fibre mix for HM Government and the manufacturing and marketing rights have been granted to Pilkington.

## Educational plans go ahead

A £244m. building programme for higher and further education major projects to start in 1977-78 has been authorised by the Secretary of State for Education and Science. Of this total £44m. has been allocated to the University Grants Committee who will settle individual starts programmes with the universities.

In the non-university sector, the DES will select individual projects totalling £20.5m. from bids received from local education authorities and other providing bodies in England and Wales. Much of this programme will be allocated to new buildings needed to accommodate the projected increase in the number of students, particularly in the 16-19 age group, taking non-advanced courses of further education.

The amounts authorised for the non-university sector are in effect limits up to which local authorities can start new building projects during the period specified. They are not grants; but local authority spending, including that on non-university building, is substantially assisted by central government through the Rate Support Grant.

## Wimpey Vickers project

UNDER a contract worth £13m. George Wimpey has started construction on the first phase of a 25 acre warehousing and industrial trading complex on Vickers' Properties' South Marston site near Swindon.

The contract, for four single storey buildings ranging in size from 2,000 square metres to 8,000 square metres. They will be of steel frame design, and will be available for lease either as complete units or as variable configuration within certain limitations to meet specific needs. The site, owned by Vickers Properties, a subsidiary of Vickers, is situated outside Swindon, 3 miles from the M4 motorway.

The first phase is planned to be ready for occupation by the

## DoE orders new centre

AMEY Roadstone Construction has been awarded a contract valued at £811,208 by the Department of the Environment for the construction of a skill centre at South Dorcan, Swindon.

Work, which has just commenced, will take about 13 months to complete.

The contract involves the provision of an administration building, including offices and canteen area, with an approximate area of 1,400 square metres, a single storey steel framed training building with an area of approximately 3,500 square metres, together with external stores, boiler house, radio classroom, foul and surface water drainage, concrete hard-standings and paths.

## Big bridge over the Medway

JOHN HOWARD, civil engineering contractors, of Chatham, have been awarded a £2m. contract to build a road bridge over the River Medway at Maidstone.

Awarded by the highways and transportation department of the Kent County Council it involves the construction of a single 61m. span pre-cast and in-situ concrete post-tensioned portal arch bridge, two reinforced concrete sub-ways, retaining walls, carriageway, footways, paved and landscaped areas.

Work is to start at the end of October and on completion in two years time, the scheme will form a gyratory system at the junction of the A20 and the A229. The bridge is located in a very congested area of Maidstone and the maintenance of traffic flows is of major importance.

The first phase is planned to be ready for occupation by the

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concrete building blocks at Alfreton, Derbyshire, by TAC Construction Materials (Turner and Newall).

The company plans envisage the start of construction work on a six-acre site early in the New Year and the plan should be completed in time to go into production in 1978.

During initial production, output will be about 1,500 square metres a week, building up gradually to 4,000.

This is the second stage of the TAC diversification plan. It follows the £1m. investment in synthetic aggregate and block plant facilities at Halton, Widnes.

The latter plant is now in operation. For the new venture, Lacey Roberts Tongue and Horbury has been retained as construction management consultants.

## Warrington £4½m. plan for housing

FPA FINNEGAN has won a £4.5m. contract by the Sutton Housing Trust to build 486 Framelorm dwellings at Warrington.

The contract includes the provision of roads, sewers and site works and the projects will be completed in four phases. Final completion is scheduled for early 1978.

The site of the project is the former RAF Padgate training station. The dwellings consist of 86 two-storey flats, 54 three-storey flats, 345 houses, plus a superintendent's house and depot. There will be 10 units for handicapped persons and 46 "mobility houses" for partially handicapped people. There will also be about 60 units for old people.

## Hong Kong housing

HKONG Land Company announced a \$81,500m. government-sponsored private development on the island of Hong Kong.

A development will be for a cost, high-rise development on Pokfulam area on the eastern peninsula of Hong Kong.

The project, which has the Hong Kong Government's co-operation, and which extends to a 17-acre site in a natural area on the east of the Pokfulam Road, will provide dwellings, shops, schools and communal and community facilities.

The estate will benefit from government schemes, including dual carriageway road and roads to the New Island.

ADDITIONAL agreements for additional works to the Pokfulam development have been signed by the Ruler of al, and Michael Murphy, of al International.

The supplementary agreement covers the installation of three major additions to the cement works at a cost of just over \$7m. They include an electrostatic filter, to be installed between the kiln and chimney, to eliminate as far as possible the dust going from the kiln, through the chimney into the local atmosphere; two 15000 tonne clinker silos with dedusting equipment and a 33/8.6 kV substation.

Dubai national cement factory, to be the biggest of its kind in the Gulf, is currently being built by Costain. The contract is to design, construct, equip and commission a cement plant with a rated output of 1500 tonnes per 24 hours. Total cost will be over £33m.

## Bovis move in Arabia

A NEW specialist company has been formed by Bovis Civil Engineering to spearhead a drive for more overseas contracts.

The company is Bovis International (Civil Engineering), with registered offices at Westbury, Wiltshire—home of the parent company.

Chairman of the new company is Pat Hall and the managing director is David Edwards, who has been a director of Bovis Civil Engineering for many years.

A wholly-owned subsidiary of Bovis Civil Engineering, the

company has already organised offices in Kuwait and Riyadh, capital of Saudi Arabia.

AUSTIN-HALL Building Systems (Pentons Group) has been awarded a \$580,000 contract for the supply of housing and hotel accommodation in Saudi Arabia, bringing the total of overseas orders received by the Company in the last three months to £1m.

The latest order has been placed by the Olayan Group through their U.K. associate, Compel Olayan. It is itself a major Saudi Arabian construction group, and in addition acts as agent for Austin-Hall, Huddersfield, throughout the territory.

Terraced and detached houses, with hostel "camps" for transport drivers, are included in the contract, which covers installations at Khobar, Riyadh and Jeddah. Full furnishing is also being supplied by Austin-Hall throughout.

Meanwhile, three luxury bungalows will be built in two months at Riyadh, the capital of Saudi Arabia, to demonstrate the speed with which modular concrete system homes can be constructed.

erected in sections of three or four units per designated area.

Costain has been awarded a £1m. contract to build a supermarket in Ramsgate for Waitrose. The two-storey building will be of reinforced concrete construction with brick cladding giving a shopping area of 1385m<sup>2</sup> at ground level with 1385m<sup>2</sup> storage above.

On Tuesday November 9, the first major review of lightweight aggregate concrete in the U.K. for ten years entitled "Lightweight aggregate concrete—where next?" will be held at the Cement and Concrete Association's Palmer Grange Conference and Training Centre, near Slough. The one-day meeting has been organised jointly by the Association of Lightweight Aggregate Manufacturers, the Concrete Society and the C&CA.

This meeting is intended for principals, directors and senior staff of architects, consulting engineers, quantity surveyors, contractors and others responsible for decisions relating to the selection and use of lightweight aggregate concrete.

Head Wrightson Process Engineering is constructing at the BSC Lackenby basic oxygen steelmaking plant a £3m. secondary gas cleaning and fume extraction system. The contract was received from Davy Ashmore International and is for equipment to deal with fume arising from molten iron handling operations which is a source of nuisance to local residents.

A contract for the construction of West Denbigh advance factory units for the Corporation has been let to Llewellyn Construction of Milton Keynes. Tender figure is £109,237. The site is on Blitchley's west industrial estate off the Watling Street A5.

Bristol Waterworks Company has awarded a £107,000 contract to TAC Construction Materials, pipes division, covering the supply of Everite asbestos cement pressure pipes for the Cheddar/Brent Knoll Phase 2 water scheme. Over 6000 metres of 4m long pipes are required in 400 mm and 450 mm diameters class 20, together with cast iron fittings.

South West region of Drake and Scull Engineering Limited has received an order from John Laing Construction, Midlands Region, worth over £190,000, covering the design and installation of the electrical services for a hypermarket to be built for Hypermarket (Holdings) at Midsbury, near Birmingham.

Stocks Bros. Buildings, of Garforth, Leeds, who specialise in single storey precast concrete panel constructions, took the £90,000 order for the pilot show-house scheme from a group of Saudi Arabian and Lebanese businessmen with extensive property and banking interests, against Swiss, French, German and finally Italian competition.

OPERATION BRITAIN



The capability of the Norwest Holst group is total in the extent of its activities for the civil engineering and construction industries—and also in geographical coverage.

It isn't possible to show on the map all the projects now being undertaken in Britain but there are enough flags to give some idea of our capability. Whether shown or not, and regardless of size, all projects have the same benefit of our personal attention and service.

As a very brief selection of what we do, the project at Okehampton is earth moving, Carlisle a gas pipeline, Glendevon a water treatment works and reservoir, Anglesey storage tank foundations and

pipelines, Swindon a town centre development, London two major refurbishment contracts and Sittingbourne a multi-flue chimney and boiler house.

Of course we don't stop at the Channel. Anywhere outside the UK we are able to provide our management expertise and technical skills through Norwest Holst International and our incorporated overseas companies.

Whatever the job or wherever it is, we can undertake the whole project from soil testing to completion. The sustained flow of new orders reflects confidence in both our management policies and our capability in implementing them.

E.A. Brian, Chief Executive, Norwest Holst Group.

## Norwest Holst total capability

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## IN BRIEF

Corral Construction has contracts in London, Birmingham, Glasgow, together worth £2m. Contracts worth £600,000 come from Kensington Chelsea, Wandsworth and Isle.

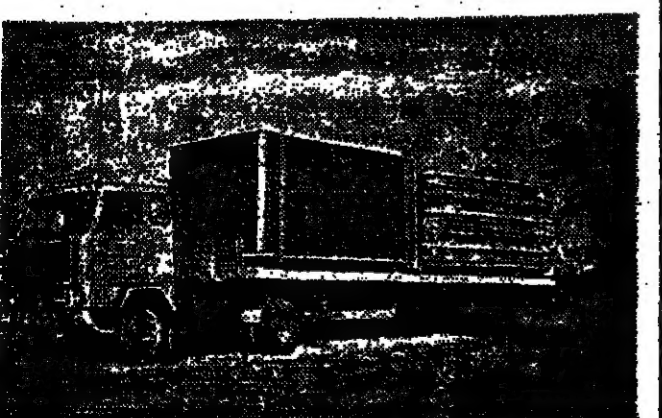
Master Construction Services, Hitchin, have won orders for over £4m.—ranging

from a new school for the Northampton Roman Catholic Diocese at Bedford worth £1.25m. to a warehouse development for Frantome Investments at Hertford worth £200,000. Three of the other contracts of approximately £500,000 each are for local authority housing in the North London boroughs of Camden and Islington.

Aberdeen Construction Group subsidiary Alexander Hall and Son (Builders) has a contract to the value of £342,770 by Robert Gordon's Institute of Technology for residential units with new road formations and all contingent drainage and water services at Kepplestone, Aberdeen.

Henry Boot Construction has a £510,000 contract by the Vale Rural District Council to construct a series of nursery factory units on the Winsford Industrial Estate, Cheshire. A total of 13 factory units complete with office accommodation are to be

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## LABOUR NEWS

## Gormley in bid for new pit-based output scheme

BY DAVID CHURCHILL, LABOUR STAFF

MR. JOE GORMLEY, the miners' president is paving the way for a new attempt to introduce a pit-based productivity scheme similar to the one rejected in the latest issue of the National Union of Mineworkers Journal, is almost certain to lead to conflict with the union's Left-wing who see local productivity schemes as "divisive."

It comes as a new row has broken out between the different political wings of the union at a week-end NUM delegate meeting on the eve of Labour Party Conference at Blackpool.

Moderates on the delegation tried to urge Mr. Mick McGahey, the union's vice-president and a member of the Communist Party, from leading the delegates in the absence of Mr. Gormley who is in the U.S. But the bid was rejected at a closed meeting without coming to a vote.

Mr. Gormley, in an article in the union's journal, wants a return to free collective bargaining next year to go hand-in-hand with measures that will increase productivity and wages in the mining industry.

He states that the existing production bonus which is based on national coal output has had a "derisory" effect on wages and done little to help recruit workers to the pit-face and achieve overall higher productivity.

Mr. Gormley would like to see talks at each pit to determine the targets and norms for that pit to be used as basis for a local productivity scheme.

Output above that laid down as the norm would earn a bonus to all the colliery workers based on a national scale.

Similar pit-based schemes operated in almost every other main coal industry in the world, Mr. Gormley claims, which enabled these competitors to achieve higher production levels than the U.K.

A special sub-committee of the union's executive has been set up to consider the implications

of the failure of the existing production bonus scheme.

Proposals for a similar scheme put forward two years ago by the National Coal Board and supported by the union's moderates were defeated by a majority of three to two in a pit-head ballot.

The miners also intend to make it clear at this week's Labour Party conference that they would be seeking a number of fringe benefits, such as early retirement and extra pay for being under special laws while on colliery premises.

The NUM plans to meet the Prime Minister and other senior Government Ministers after the conference to press their claim.

The review says that EEC entry has lost employment opportunities largely because of the size of Britain's deficit in trade in manufactured goods with other Community countries.

"It should be clear by now that exposure to EEC competition has not been beneficial to our manufacturing industry; nor has it provided any 'jobs for the boys'."

On investment, the review says: "The amount directly invested overseas by U.K. private industry is little noticed but it

Joining EEC has cost up to 1m. jobs, says union

BY OUR LABOUR STAFF

MEMBERSHIP of the Common Market has cost Britain 1m. potential jobs, says the Association of Scientific, Technical and Managerial Staffs in a special edition of its quarterly economic review, published on the eve of the Labour Party conference.

A further 700,000 potential jobs have been lost through U.K. private sector investment overseas, the union claims.

The review says that EEC entry has lost employment opportunities largely because of the size of Britain's deficit in trade in manufactured goods with other Community countries.

"It should be clear by now that exposure to EEC competition has not been beneficial to our manufacturing industry; nor has it provided any 'jobs for the boys'."

On investment, the review says: "The amount directly invested overseas by U.K. private industry is little noticed but it

represents a very substantial loss of jobs in the U.K."

Had the money invested overseas by the U.K. private sector been invested in Britain a large number of jobs could have been created. On the basis that it takes about £1,000 worth of investment to produce one job, then the loss of potential jobs from this cause since 1973 has been over 737,000.

In a separate report, the union estimates that a further 84,000 jobs will be lost as a direct result of the deficit of trade with the Common Market between July 1976 and June 1977.

Calling for the introduction of import management immediately, it says that Japan was not the only problem in trade. In the first seven months of this year 35 per cent of domestic car sales were accounted for by imports. Of these, 64 per cent were from the EEC and 26.7 per cent from Japan.

Meeting to-day may end drivers' strike

By Peter Cartwright

A CRUCIAL meeting of 400 Coventry car delivery drivers to-day will determine how long thousands of motor industry workers can be kept in their jobs when they return after a week's holiday.

The drivers' strike is causing Triumph, Jaguar and Chrysler factories to run out of parking space for new cars. Lay offs at Triumph are imminent unless there is a resumption.

The strike, which began five weeks ago with 80 Silcock and Colling drivers walking out over the sacking of 17 colleagues. Last week looked as though it would be supported by the remainder of the 800 Silcock drivers at a dozen depots until a 10-hour meeting with officials of the Advisory Conciliation and Arbitration Service found a peace formula.

This involves re-instatement of the 17 men and work sharing. If accepted by to-day's meeting an immediate resumption is expected.

Teachers to see Williams about manpower cuts

BY OUR LABOUR STAFF

LEADERS of the National Union of Teachers will meet Mrs. Shirley Williams, Education Secretary, early in November to protest at the cuts in teaching manpower at the same time as the Government's job creation scheme was trying to employ teachers.

Mr. Fred Jarvis, general secretary of the NUT, said after the union's executive meeting at the week-end that some £200,000 would be spent in South Wales creating jobs with remedial children for unemployed teachers.

"You can get money from the Government from one hand but not the other. It is ironical that money should be available to

employ teachers on these schemes but not in their proper jobs."

The NUT executive also decided to endorse sanctions by its members in the Stockport area. They are protesting at over-size classes and poor working conditions. Teachers will be asked not to cover for absent colleagues or to teach a class with more than 35 pupils.

But the executive decided not to give financial help to the six teachers at the William Tyndale school in North London who face disciplinary hearings later this month for taking strike action over teaching standards.

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Businessman's Diary

U.K. TRADE FAIRS AND EXHIBITIONS

Date	Title	Venue
Current	BSI/Dec. Council: "Living Standards" (cl. Oct. 9)	Design Centre, S.W.1
Current	Int. Machine Tool Exhibition (cl. Oct. 2)	Nat. Exbn. Centre, Bham
Current	Commodore Motor Show (cl. Oct. 2)	Earls Court
To-day	Autumn Floorcoverings Fair (cl. Sept. 30)	Metropole Centre, Brighton
To-day	Int. Plant Engineering and Maintenance (cl. Oct. 1)	Nat. Exbn. Centre, Bham
To-day	U.S. Packaging Equipment Systems (cl. Oct. 1)	U.S. Trade Centre, W.1
Sept. 28-30	EIA Engineering Exhibition	Bournemouth
Sept. 28-30	Mailing Machinery Exhibition	Bournemouth
Sept. 28-Oct. 2	Subcontracting Industries Exhibition	Bournemouth
Oct. 3-6	London International Footwear Fair	Nat. Exbn. Centre, Bham
Oct. 3-23	International Exhibition and Marketing Seminar	Olympia
Oct. 4-7	World Offshore Exhibition	World Trade Centre, E.1
Oct. 5-8	SPECIBUILD Exposition	Olympia
Oct. 12-14	U.K. Automatic Testing Exhibition	Olympia
Oct. 14-30	Birmingham Ideal Home Exhibition	Seymour Hall, W.1
Oct. 17-20	International Garden and Leisure Exbn.	Nat. Exbn. Centre, Bham
Oct. 18-20	Electronics Exhibition	Nat. Exbn. Centre, Bham
Oct. 18-23	Kensington Antiques Fair	U.S. Trade Centre, W.1
Oct. 19-23	Furnaces, Heat Treatment & Fuel Economy Exbn.	Kensington Town Hall
Oct. 20-30	International Motor Show	Nat. Exbn. Centre, Bham
Oct. 21-23	Management Services and Equip. Exbn.	Earls Court
Oct. 23-31	International Ski Show	Harrgate
Oct. 26-29	London Fashion Exhibition	Olympia
Oct. 27-30	British Intnl. Fashion Fair	Olympia
Oct. 31-Nov. 4	Int. Plant and Maint. Exbn. and Cong.	Nat. Exbn. Centre, Bham
Oct. 31-Nov. 4	Int. Domestic Contract Textiles Exbn.	Nat. Exbn. Centre, Bham

OVERSEAS TRADE FAIRS AND EXHIBITIONS

Date	Title	Venue
Current	Video 76 (cl. Sept. 29)	Cannes
Current	SICOB: Office Equipment Exhibition (cl. Oct. 1)	Paris
To-day	Ocean Development Exhibition (cl. Oct. 1)	Tokyo
Oct. 1-21	International Trade Fair	Baghdad
Oct. 2-5	International Furniture Exhibition	Lyons
Oct. 3-8	Gastech LNG/LPG Technology Equip. Ex. and Cong.	New York
Oct. 5-17	International Motor Exhibition	Copenhagen
Oct. 15-24	International Electrical Fair	Bucharest
Oct. 15-25	International Trade Fair	Genoa
Oct. 15-25	International Boat Show	Hamburg
Oct. 17-23	Intnl. Hotel and Catering Equip. Exbn.	Paris
Oct. 18-23	International Electronics Exhibition	Budapest
Oct. 19-Nov. 1	Fourth International Trade Fair	Tehran
Oct. 21-27	International Technical Fair	Stockholm
Oct. 27-30	Fish Expo 76	Boston

BUSINESS AND MANAGEMENT CONFERENCES

Date	Title	Venue
Sept. 28	IBA: Exec. Remuneration and Fringe Benefits	Royal Garden Hotel, W.1
Sept. 28-30	Method Dev.: Work Study Appreciation	10, Woodhouse Sq., Leeds
Sept. 28-Oct. 1	Inst. of Petroleum annual conference	Eastbourne
Sept. 30	Inst. of Work Study: EEC Transport Legislation	Royal Ldn. Hotel, W.1
Sept. 30-Oct. 1	Financial Times: The Banker, Investment House	Manila
Sept. 30-Oct. 1	Assoc. of the Philippines: Investors Chronical and Malaysian Airlines System: Business in the Pacific Basin	Manila
Sept. 30-Oct. 2	NCF: International Cash Management	Oso
Oct. 5-8	W. D. Scott: Effective Office Management	Swindon
Oct. 5-8	Int'l. You. Four Workers and the Law	Southgate Hotel, W.1
Oct. 5-8	Euro. Study Conference: The Finance Act 1976	Portman Hotel, W.1
Oct. 7	Arabian Mark: Selling to the Magreb and Libya	Cafe Royal, W.1
Oct. 7	British Printing Fed.: Print Marketing at Work	Royal Lancaster Hotel, W.1
Oct. 8	Over: Water and the Industrial User	Ion on the Park, W.1
Oct. 8	ESC: EEC Trade Mark Draft Regulation	Royal Garden Hotel, W.1
Oct. 8	BAGIE: Training for Vital Skills	London Hilton, W.1
Oct. 11-Nov. 5	H. Mitchell: Work Study Course	Seeston, North
Oct. 12	Henley Centre: Cost and Price Indication to 1981	Carlton Tower Hotel, W.1
Oct. 13-13	Seatrade: In Search of Safety seminar	Europa Hotel, W.1
Oct. 12-14	Financial Times: Qantas, Australian Financial Review: Australia in the World Economy	Wentworth Hotel, Sydney
Oct. 14	Economic Models: Auto Industry Forecasts	EM House, S.W.1
Oct. 18	Inbucor: Relocation or Dislocation	Dorchester Hotel, W.1
Oct. 18-22	P-E Cons. Group: Maintenance Management	Training Centre, Egham
Oct. 18-22	Keppner-Tagoe: Decision Making for Senior Man.	Royal Bath Htl., Bournemouth
Oct. 19-20	Financial Times: Ministry of Works, Power and Water, Bahrain: Gulf Air: World Construction—Prospects in the Arab Countries	Bahrain
Oct. 21	Interface: Man. Finance for lay Execs.	Post House, Reading
Oct. 21-22	Design Eng.: Designing for World Markets	Europa Hotel, W.1
Oct. 21-22	Assoc. Bus. Prog.: Property Taxation	Tara Hotel, W.1
Oct. 25-27	Assn. Cert. Agents: European Aspects	Clifton-Ford Hotel, W.1
Oct. 25-27	MCE: Labour Relations in Europe	Brussels
Oct. 25-28	Roffey Park: Managing Industrial Rel.	Horsham, Sussex
Oct. 26-28	ORC (U.K.): Paying People Abroad	Connaght Rooms, W.C.2
Oct. 26-28	ABP: Employee Remuneration and Benefits	Albany Hotel, Glasgow
Oct. 28	WTI: New Approach to Exporting	World Trade Centre, E.1
Oct. 28	Imp. Coll.: Computers Behind the Screen	Exhibition Road, S.W.1

THE FINANCIAL TIMES

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## BY NICHOLAS LESLIE

consultant, has written a report, <i>Employee Benefits in Europe 1976</i> , which looks at the practices existing in 16 countries. It is not, as the author recognises, a highly detailed and exhaustive study of the benefits	benefits. In the second part there are 16 chapters, each devoted to a different country, and with a constant format used throughout the section. For each country a summary of benefits	<i>Employee Benefits in Europe 1976</i> , by David Callund, Published by Employment Conditions Abroad, 13, Devonshire Street, W.1. and Callund and Co., 48, St. James's Place, S.W.1. £25.
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## Popular image

panies like it or not. "Managers should recognise this fact of life and take the opportunity to make a virtue of necessity by developing a positive and progressive information policy rather than a purely reactive one," it declares.

**"Sharing the facts: Current Law and Practice on Disclosure of Information.** Arthur Young Management Services, Moor House, London, Wall, London, E.C.2. Free.

of Sea Conference : FT27/9  
 "Sovereignty Problems and World Offshore  
 Development".  
 Quentin Morris, Group Financial Controller,

The third major cost area is company pensions. Contrary to popular belief (and to the belief expressed in many readers' letters on the subject of pensions), most large U.K. com-

salary inflation this cost doubles. In the past most actuaries have worked on a 2 per cent. real rate of return but concern is now being felt in many quarters that the power of organised labour to pre-empt a larger slice of the national cake is now so great that it may be necessary to assume a lower rate of return on capital in future. This is the basis of the argument against a funding of Mr. Raymond Nottage, the director general of public administration, but wherever the theoretical arguments employers should give serious consideration to the possibility of a substantial increase in the cost of meeting their present pension commitments and the factors that can lead to this.

On top of this, there are the lesser known provisions of the 1975 Industry Act, and the Employment Protection Act 1975, under which a code of practice "for good industrial relations practice" on disclosure is currently being developed. Finally, there is a whole series of draft EEC directives

Two ranges of chairs have been added by Herman Miller to its range of office furniture. Ergonomically designed—that is, made to enable correct posture to be maintained—the MSD range is aimed at anyone from chairmen to filing clerks, while the MKD range comprises four basic models—director and management and secretarial and operational. MSD prices start at £62 and the MKD at £35. Herman Miller, Bath, Avon.

Dated this 17th day of September 1976.  
By Order of the Board,  
A. R. PATTON,  
Director.

27,500 have been purchased in  
Sinking Fund  
J. Gresham Street,  
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7th September, 1976.

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## HOME NEWS

## A LOOK AT BLACKPOOL: SCENE OF THE LABOUR PARTY CONFERENCE

## A brash, big-headed, vulgar success

BY MICHAEL THOMPSON-NOEL, IN BLACKPOOL

IT IS IMPOSSIBLE to be rude about Blackpool, just as it is impossible to be rude enough. No matter what anyone says or thinks or feels about its ugliness, awfulness or its monumental vulgarity, Blackpool bounces back at you, clapping you heartily between the shoulder blades with one hand while emptying your pockets with the other.

In one breath it describes itself as Fun City, the resort of the century, Britain's conference capital and the entertainment centre of Europe. The labels blend truth with hogwash in equal proportions, for there is no limit to the town's conceit nor constraint to its popularity.

## Curious

It is host this week to the Labour Party Conference but it hardly seems aware of it. The resort is in the midst of the eight-week climax to its season, the illuminations, which light up the promenade like a crazy neon cake.

Blackpool has taken a little trouble with the lights this year, partly because it is the town's centenary, partly because of their enduring popularity. The new tableaux include Oriental Avenue, Pet's Parade, Cavern Caprice, North Sea 76 and Bygone Blackpool, each more ludicrous than the next.

Yet by October 31, when they are mercifully switched off, the illuminations will have helped suck an estimated 10m. free-spending tourists to its spot on the Lancashire coast. For the town is a memorable commercial success.

One young entrepreneur, in the midst of explaining to me the supernatural workings of a candy floss franchise, said:

"You're welcome to come and say that Blackpool is brash, big-headed and vulgar. We know it."

But we've never had a bad season. If the rest of the country made the money that Blackpool does it would be laughing. We give the public what they want — it's as simple as that."

The last major study of the Blackpool success story was a survey carried out in 1972 by the English Tourist Board. This calculated that in that year the resort lured 2.4m. holidaymakers and 3.8m. "trippers" (day or evening) who between them spent £70m., a figure which excluded the spending of trade and conference visitors. It found that roughly half of all Blackpool holidaymakers had visited the resort more than ten times.

In the curious language of such surveys, Blackpool was described as appealing to "people who like the bright lights, sociable people, teenagers, young adults, people with children, working-class people, people with money to spend and people who aren't bothered about the weather. Similarly Blackpool would not be very appealing to: people who like to get away from it all, upper-class people, sun worshippers and people who have to watch the cost."

If anything, Blackpool has blossomed since 1972. The M55, a spur of the M6, was opened last year, so that Birmingham, for example, is now only two hours away. There has also been a big investment in self-catering accommodation and continued steady spending on new and more lucrative forms of entertainment.

As a result Blackpool expects to draw up to 7m. visitors who will spend £130m.-£150m. during the eight weeks of the

illuminations. Where does it go? It goes first into the resort's 4,500 hotels, guest-houses and self-catering flats.

With a few exceptions, the hotels in Blackpool wash the length of the promenade—the Atlantic, the Florence, the Balmoral, the Spa—each with a sun lounge where guests sit and watch the rain sheet down, each with its plastic-covered chairs, multi-patterned carpets, dinky cocktail bars and lounges full of bored bookies from Bolton.

## Money trap

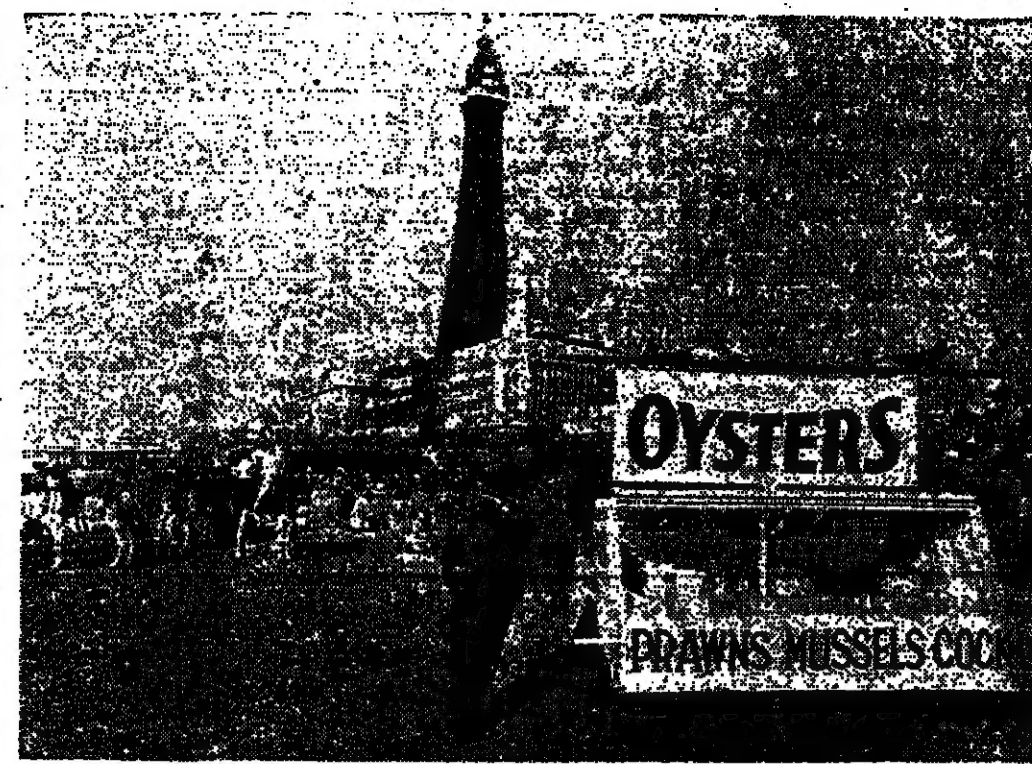
The guest-houses are just guest-houses: pink-curtained havens of gloom where broad-bosomed mill girls and factory workers from the Midlands eat and sleep noisily. After that, the money disappears into Blackpool's shops and entertainments.

The town is a money trap. There are eight live shows (with a top ticket price of £1.60) nine cinemas, six ballrooms, 18 "cabaret lounges", more than 50 clubs, three casinos and countless bars, discotheques and night spots. There is also a zoo, the Tower and the 40-acre Pleasure Beach.

## Bingo

It is impossible to move anywhere in Blackpool without spending money. Everywhere you turn is a rash of souvenir shops (stage head barettes, Womble toys, rude ashtrays, calendars with verses addressed to "Mother", "Home" and "Friendship", and nude playing-cards), ice cream parlours, bingo and amusement arcades, fish and chip shops, bars, bier kellers and restaurants.

A glimpse into the inner workings of the promenade was supplied by a visit to the prize bingo game on Central Pier. The games lasted about 30 seconds to one minute, plus a similar interval, and seated 50 customers at 10p a time. This gave a likely income of £150 per hour.



On the beach at Blackpool

2,500 of them for the Labour Party gathering this week—because of its sheer capacity to house, feed and bed them. Most of the large conferences are staged at the Winter Gardens. It is there that much of the conference socialising is done—tea meetings in the Baronia Hall and the Windsor Bar, civic and trade union receptions.

Drinking Those who can afford it eat in the Louis XVI Room at the Imperial Hotel or at the Town and Country Restaurant in Talbot Square. The delegates do much of their serious drinking at Yates's Wine Lodge.

Otherwise they keep their heads down. But in Blackpool the show never stops, at least not before Christmas.

The Blackpool Hotel and Guest Association is sending out copies of its Christmas Guide, wherein, amidst 140 similar advertisements: "Joan and John Taylor invite you to Spend A Happy Christmas At Holiday Licensed Hotel, 1. Vance Road, Central. Good Food, Bingo, Games, Fancy Dress, Organ, Fires All Rooms. 4 Days Minimum £35.00p. Personal Attention. Phone 28475."

## Drinking

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Book now. Hurry. It could be an unforgettable experience.

## Howe attacks 'hollow ring' of Healey promises

THE WORDS of Mr. Denis Healey had the "same hollow ring" as those of Dr. Goebbels, Sir Geoffrey Howe, Opposition spokesman on Treasury and Economic Affairs, said at the week-end.

"Even until a few weeks ago, Denis Healey was promising us the prospect of an economic miracle," Sir Geoffrey said. In the same way, Dr. Goebbels, the Nazi Propaganda Minister, was still talking in 1944 of the "military miracle which would save Hitler's Germany."

Sir Geoffrey said at Burgh Heath that Mr. Healey's economic policy was "crumbling into ruins."

He described Mr. Jack Jones, leader of the Transport and General Workers' Union, as the "self-appointed guru with the greatest influence over Cabinet thinking."

Mr. Jones had called for yet another capital levy on firms. Labour's national executive had called for the nationalisation of the banks and insurance companies, and the Government wanted to increase public spending.

"This package of economic illiteracy could do nothing but harm to industry, already crippled by the triple evils of high taxes, high inflation and price control."

"Mr. Healey's silence has been deafening—and has, perhaps, impressed our creditors even more than his former optimism."

"What is happening to the exported boom of which we have heard so much? It could hardly be described as strongly established. Although international trade was expanding, our exports fell in the last six months."

He said it was difficult to place faith in Mr. Healey's forecast of substantial reductions in the number of jobs Britain would be very lucky to reach single-figure inflation "for even a three-month period in 1977."

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## Receiver for ship company

THE Scottish shiprepairers Alexander Stephens, with 300 employees at yards on the Clyde and Forth, has called in a receiver.

The company, which has faced long periods without work offered the past few months the decision on lack of repair contracts causing financial problems. In addition, there had been a two-week strike which closed its main yard at Linthouse, on the Upper Clyde.

The Bank of Scotland is expected to announce the appointment of a receiver to-day or to-morrow. His first task will be to assess whether the yards can continue. They are run by separate companies, Alexander Stephens Shiprepairers at Linthouse, and Alexander Stephens (Forth) at Leith, where about 40 are employed. The family-owned Stephens group has announced closure of its engineering company at Linthouse, where only 70 of the original workforce remain.

The Linthouse strike, by 15 boilermakers over a disciplinary issue, ended at the week-end after the workforce was told of the decision to call in a receiver. The strike lost the yard two dry-docking contracts.

Stephens was not on the Government's nationalisation list for the ship-repair industry, the Linthouse yard, which built ships until its incorporation into Upper Clyde Shipbuilders in 1968, is the last dry dock facility on the Upper Clyde for general use.

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## Public sector has 'crowded out' private borrowing

WORRIES by the banks about public sector borrowing crowding out the private sector are already being realised, it is argued to-day by Dr. David Lomax, economic adviser to National Westminster Bank.

The strong pressures against the pound have forced the authorities to adopt tight money measures earlier than might have been indicated by cyclical conditions in the domestic economy, he says in his monthly U.K. Economic Outlook.

"Many months ago, commentators, including ourselves, speculated how the authorities would cope when the economy recovered, with the problems caused by the massive public sector deficit. How could they then maintain monetary control? Would the authorities curb the public sector, or would the private sector recovery be slowed? Would the private sector be 'crowded out' in the competition for credit? Well, this issue has now been settled: the private sector has borne the brunt, has been 'crowded out'."

Recent policy measures had three aims: to help stem monetary growth, to help sell gilt-edged stock, and to strengthen the exchange rate.

Keynesian The threat of a seamen's strike, now averted, and general economic and financial uncertainties triggered the pressure against sterling which forced the authorities to adopt a tighter monetary stance. However, a more restrictive monetary environment was becoming due in any case, because of the recent acceleration in the money supply.

The situation had been becoming incompatible with the conditions on which the International Monetary Fund will probably insist if, as now seems increasingly likely, the U.K. were obliged to apply for a further loan before the end of the year.

The Keynesian theory of expansion to full employment through increased government spending "contains a time bomb in the form of an inevitable inflation collapse."

Mr. Walter Eells, an economist at Oxford University, said the public sector was "crowding out" private borrowing.

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## Report from the Sumitomo Bank

Despite the continuing economic pressures in 1975 as Japan began its slow, and still selective, progress toward recovery, the Sumitomo Bank completed its 80th anniversary year with further expanded deposits and increased financial strength.

## Expanded Deposits and Loans

Deposits during fiscal 1975 grew 18.6% to ¥7,097,750 million (\$23,687 million); loans rose by 11.6% to ¥5,832,381 million (\$19,464 million), notwithstanding stricter regulations on the loan volume set by the Bank of Japan. The securities portfolio expanded by 19.9% to ¥1,127,062 million (\$3,761 million). Earnings were adversely affected by reduced profit margins, but this was largely compensated by the effectiveness of global operations and the additional funds generated by increased deposits. Net income during fiscal 1975 was ¥23,818 million (\$79 million), giving the Sumitomo Bank the highest after-tax profits and earnings per share of any Japanese bank, for the 10th consecutive year.

## Improved Banking Services

The bank's emphasis on consumer banking was maintained, resulting in a heartening increase in deposits by individual customers. Housing loans grew by 32.4%. On-line cash

deposit machines have been installed in 155 of the 188 domestic branches, providing a complete "automatic teller" system together with the on-line cash dispensers and change makers already in use in all branches.

## Worldwide Network

The bank's worldwide network was further improved by the addition of new representative offices in Tehran and Cairo. It now includes eight overseas agencies and branches, seven representative offices, and 14 subsidiaries and affiliates.

## Outlook for 1976

While the coming year will be marked by continuing domestic fluctuations and increasing complexity in overseas operations, Sumitomo Bank is determined to remain Japan's most profitable and progressive financial institution, on a basis of full commitment to the interests of society as a whole, and to its shareholders and customers.

## The Sumitomo Bank Limited Consolidated Balance Sheet

(As of March 31, 1976)

Assets	In thousands of Yen	In thousands of U.S. Dollars
Cash and Due from Banks	1,055,346,880	3,521,932
Call Loans	24,767,839	82,656
Securities	1,127,062,487	3,761,263
Loans and Bills Discounted	5,832,381,148	19,463,978
Foreign Exchanges	541,549,713	1,974,135
Domestic Exchange Settlement a/c. Dr.	131,539,646	438,978
Bank Premises and Real Estate	120,522,884	402,212
Other Assets	42,878,326	143,095
Customers' Liabilities for Acceptances and Guarantees	1,304,928,308	4,354,842
Total	10,230,977,231	34,143,091
Liabilities	In thousands of Yen	In thousands of U.S. Dollars
Deposits	7,097,749,841	23,686,801
Call Money	297,032,478	991,265
Borrowed Money	550,770,169	1,838,045
Foreign Exchanges	182,800,741	610,047
Domestic Exchange Settlement a/c. Cr.	116,075,218	387,369
Accrued Expenses	164,214,672	548,021
Unearned Income	43,741,027	145,974
Other Liabilities	53,701,336	179,213
Reserve for Possible Loan Losses	80,652,959	269,157
Reserve for Retirement Allowances	42,987,361	143,459
Other Reserves	18,678,672	62,335
Acceptances and Guarantees	1,304,928,308	4,354,842
Capital (Paid-up)	66,000,000	220,257
Capital Surplus	5,642,788	18,831
Retained Earnings	206,001,661	687,475
Total	10,230,977,231	34,143,091

U.S.\$1 = ¥299.65 as of March 31, 1976

**The Sumitomo Bank, Limited**  
Osaka, Tokyo, Kyoto, Kobe, Nagoya and other major cities in Japan

London,



# We deliver.

**Export finance:** We cut red tape to a minimum. Give you a prompt yes or no on whatever you require. And besides providing finance to U.K. exporters under E.C.G.D. schemes, we also supply finance direct to overseas buyers of capital goods and services.

**TEST US:** Contact Brian Shepherd, our senior executive in charge of Export finance. Tel. London 606 9944, ext. 4368, telex 888401 or write, Midland Bank Limited, International Division, 60 Gracechurch Street, London EC3P 3BN, England.



Map by George Philip and Son Ltd. © 1977.

**Midland Bank International**



**Delivers.**







# FINANCIAL TIMES SURVEY

Monday, September 27 1976

## Commercial Vehicles

Although the latest sales and production figures are far from healthy, there is renewed optimism among producers of commercial vehicles. The feeling is that the economy is beginning to pick up and that the replacement demand cannot be held back much longer.

### IF YOU'RE THINKING OF BUYING A TRUCK IN THE CURRENT ECONOMIC CLIMATE, YOU SHOULD SEE A SPECIALIST.



advising on leasing, contract hire and outright purchase.

And by offering agreed charges for the tests and inspections that are often demanded by law.

(What they don't know from experience, we teach them. At the Ford Marketing Institute.)

Our specialists also have a lot to offer when it comes to the more general practices of after sales service.

Each dealership has an impressive line-up of large, well equipped workbays.

With the latest and best in diagnostic and maintenance machinery. Plus specialist tools for specialist jobs.

And Technicians that have qualified at the Ford Service Training College.

In a TSD's Parts Department, you'll find a stock of parts that's worth anything up to £250,000.

Along with our own twenty million poundsworth just 24 hours away at Daventry, the aim is to provide every part you'll ever need, any time that you need it.

On the subject of service, some other TSD offerings are worth noting.

One is their 24-hour recovery service.

Another is the Ford Care Credit Card (ideal for drivers who run into trouble after they've run out of cash).

And a third is the computerised Ford Operating Cost Analysis System F.O.C.A.S. (quarterly breakdowns of running costs that help you avoid running into trouble).

Now, with this good a dealer network you might expect us to be a little complacent.

We aren't.

The tough business of transporting goods gets tougher every year. So do the standards we set for our TSDs.

You see, at Ford, we believe the best way to keep ahead of our competitors is to ensure our dealers keep you ahead of yours.

FORD TRUCKS 



One of ours - a Ford Truck Specialist Dealer.

There are 141 to choose from. Each sited to be within easy reach of local operators and national haulage routes.

So you don't have to go out of your way to get all the expert advice and attention you need in these days of rising costs and ever-changing legislation.

Unlike ordinary specialists, a Ford TSD deals in preventative as well as curative medicine.

His sales staff are expert at helping customers avoid trouble.

By tailoring Ford trucks to their needs. By quoting accurate running costs. By

BRITAIN  
MOST  
IMPORT  
PRIVATE  
AN SERV

wheel  
le

OVERABLE WORLD  
RESERVES







## COMMERCIAL VEHICLES III

## Links in Europe

THE EUROPEAN commercial vehicle manufacturers are actually following their counterparts in the car industry on the road towards rationalisation. Events have been moving faster among car producers, where the stakes are higher, the virtues of scale economies more apparent, the pressures towards scale economies greater. But the commercial vehicle manufacturers' fast catching up.

Indeed, there is a possibility at the truck industry will now further than the car manufacturers have gone towards rationalisation. So far, attempts to conclude this kind of link between car companies—Fiat's abortive involvement with Simca and Citroën ring to mind—have been largely unsuccessful, and domestic European Governments have shown a preference for maintaining a locally-owned car production base rather than encouraging such mergers. But at last, a large pan-European truck company is in the making, which takes in companies in Italy (Fiat and OM), France (Renault) and in Germany (Magirus Deutz).

Most of the last decade, however, has been spent in rationalisation of the home-owned industries, a process which has particularly affected Britain. This has seen the emergence of the Leyland Truck and Bus Company from the amalgamation of the Leyland and BMC commercial vehicle interests, the merger of Seddon and Kinross under the overall control of International Harvester, the thinning of Leyland, several long-established company names, such as Guy and AEC, repre-

sented marques which were once part of independent companies, are gradually disappearing, and the only small manufacturers of note that remain in existence are the Cheshire-based concerns of Foden and ERF.

On the Continent, the major step towards German production re-organisation was the takeover, about a decade ago, of Hanomag-Henschel by Mercedes. In France this has been followed more recently by the Government-backed merger between Berliet, the former Citroën subsidiary and Saviem, which is owned by Renault. This amalgamation, conceived about a year ago, and still in the early stages of development, creates a very substantial grouping, in both the French light and heavy vehicle sectors.

## Significant

The most significant event within the last year or so, eclipsing all the more localised national developments, has been the emergence of Iveco. Although effectively under Fiat management, with the shareholding in the holding company split 80/20 between the Italian group and Magirus Deutz, Iveco represents a genuine attempt to establish a European as opposed to a national company. The long-term intention is to concentrate on different assembly activities, on different sites, heavy trucks in northern Italy, for example, and off-road vehicles at Magirus—but the group also intends to develop common component manufacturing facilities and to rationalise buying systems throughout the Continent. Presumably, in the long term the separate sales organisations will be integrated,

leading to a flow of imports and exports of Iveco vehicles across what are currently national boundaries within the EEC.

It is difficult to foresee the emergence of any other group of quite the radical nature of Iveco in the near future. Indeed, the pace of amalgamation may well slow down now because only a few of the smaller independent companies remain. Speculation continues about the possibility of a merger between Volvo and Scania—vigorously denied by both companies, which in the past have been noted for their differences more than their similarities—and ERF and Foden in Britain. The question of International Harvester's intentions in Europe also remains puzzling, with ownership of Seddon/Atkinson and a large stake in DAF, the Dutch group, International now has several options open to it in establishing a significant European presence alongside its major U.S. competitors.

The most likely development, now that the spate of mergers has petered out, is towards more inter-company co-operative agreements. These kinds of deals have a reputable pedigree in Europe, and recently led to the most ambitious plan yet—the Club of Four truck which was jointly designed and developed by DAF, Magirus, Saviem and Volvo—and, although identical, is sold separately through each manufacturer's outlets.

The Club truck was meant to fill a critical gap in the vehicle range of each of the four manufacturers. But the difficulty with the project, as foreseen by many critics, is that each of the participants emerges with the same visible product at the end.

Clearly, this creates difficulties in marketing, since the manufacturer is faced with the problem of differentiating a vehicle from competitors which look just the same. Because of this, the Club of Four experiment is unlikely to be repeated, and, in any case, both Saviem and Magirus have merged their interests with other companies since the Club truck was launched.

A much more likely course of development is towards more joint component manufacturing deals. This has already been pioneered in the car manufacturing field, the most notable case being the three-way engine project which has produced the V6 unit for Volvo, Renault and Peugeot. In the commercial vehicle industry, there have already been some tentative moves in this direction—Mercedes and MAN, for example, have collaborated on engine development for some time—but there are now signs of greater interest in expanding the scope of such projects.

## Interest

It is firmly expected, for instance, that MAN and Volkswagen will go into the light-weight truck business in co-operation. For both companies this will be a new area of interest, taking Volkswagen higher up the weight range than it has been before, and MAN further down; thus it could make sense for VW, which has a newly-designed cab—launched for its recent LT range—on hand, and for MAN which has much greater experience of diesel engine manufacturing. Each company complements the

other. Even more interesting is the recently-announced design agreement for a new range of automatic gearboxes between Mercedes and Iveco. This brings together the two most powerful heavy commercial vehicle companies in Europe, and concerns which up to now have been deadly rivals. For these two organisations to have come together and collaborate on such a vital component as the gearbox indicates the kind of pressures towards commercial vehicle manufacturers are now under to restrain costs and get the benefits of much larger research organisations. In the longer term the two companies are planning to establish common manufacturing facilities, and probably a joint plant.

It is to be expected that such deals will go further in the future. Although Continental manufacturers in particular—plus some U.K. producers like Foden—have jealously guarded their right to make all the main components in their vehicles, this principle seems to be breaking down under the greater economic pressures towards standardisation. Some commentators have argued that this trend will mean greater opportunities for independent proprietary suppliers of engines, gearboxes and axles. But standardisation could equally mean more joint activity between manufacturers anxious to keep production—and hence quality and design standards—under their own roofs. The Mercedes-Iveco deal could well be a highly significant pointer.

Terry Dodsworth

## Bad timing of French merger

THE MERGER of France's two largest truck manufacturers, Berliet and Saviem, could not have been timed, despite claims of producing by the Government and of persuasive arguments from industry analysts, it was only in late 1974 that their opportunity finally arose to force the hand of the reluctant protagonists.

The occasion was the short-run merger of a near-bankrupt Citroën Motor Company, Berliet's then parent, with its profitable rival Peugeot, and at last the Industry Ministry had sufficient leverage to oblige the owners of both Citroën and Berliet, the powerful and secretive Michelin Tyre group, to do what it wanted. Renault, the State-owned motor manufacturer that controls Saviem, was able to acquire Berliet and at last France had a single heavy vehicle group with a capacity of 8,000 units annually and combined sales of perhaps Frs.7bn. (\$10m.)—and with enough muscle to compete more effectively with Mercedes and Iveco (Fiat).

That at least was what the planners were hoping for. But by 12 months to the middle of 1975 in retrospect proved the most disastrous in the history of the sector: even now, a year later, the industry is still licking its wounds. Total registrations (including buses) dropped 7/ almost a fifth in 1975 to 95,352 units, and the export market, which had surged ahead for the oil crisis, in its turn weakened. To-day the picture is lighter, even if orders are showing fresh signs of stagnation.

## Pattern

The pattern emerges clearly from the latest figures from the two groups and from the industry federation in Paris. For vehicles of over 6 tonnes, proportional output in the first five months of 1976 was 1.4 per cent up from a year earlier at 22,406 units, and showed a respectable enough gain of 20 per cent over 1973. Exports, however, although a whopping 132 per cent higher than three years ago, are down 24 per cent over the last 12 months.

As for registrations, the improvement from the depressed conditions of 1975 is substantial at 61 per cent, (admittedly helped by aid given to corporate investment in the September 1975 refuel package), but sales are still 4.6 per cent below the levels of the halcyon days of 1973. The breakdown for output in the January-May period was 9,897 vehicles produced by Berliet, 5,073 by Renault, and 5,872 by Umic, a French subsidiary of the Italian Fiat group.

In financial terms the story is much the same. Last year was catastrophic. Berliet and Saviem together lost over Frs.150m. (£25m.). More seriously, on the bus side, there should

of turnover—was a fraction of the amount spent (7 to 9 per cent.) by either Mercedes or Fiat.

If any further aid arguments were required for the union of two forwards, it should be remembered that the relations between them, particularly on Berliet's side, were prickly. Founded by the legendary Maurice Berliet at the end of the last century, and a pillar of the conservative Lyons economy, Berliet had always looked somewhat askance at its nationalised competitor. Its association with the hermetically sealed Michelin empire made matters no easier. Against this background it was scarcely surprising that until this summer little had been heard of Renault's plans to integrate the two companies. Now, however, the shape of things to come is beginning to coalesce.

Last July the then No. 2 in the Renault hierarchy (and overall master of its truck division) M. Christian Beullac outlined his strategy. "You must expect any miracles" were almost his first words, and over the sign is that after M. Beullac's departure to become Labour Minister in the new Government, his successor, M. François Zamotti intends to maintain the same cautious approach. Progress though is being steadily made.

Over the past few months one of the biggest problems seems to have largely been resolved—the chronic financial weakness of Berliet, which always shared the inability of its erstwhile parent Citroën to put its affairs in good order. Last year's loss of Frs.71m. (£8.5m.) was hardly an exception, for Berliet had rarely been profitable since the mid-1960s. Like Citroën, too, it had flirted with a number of mergers (the last being the protracted talks with Volvo in 1973) but never quite made it to the altar.

Since the Renault deal, however, things have brightened. A pruning operation has cut the workforce by 800, and overall indebtedness has been reduced by Frs.450m. by the middle of this year. Equally encouraging is the fact that the poor industrial relations which bedevilled the group are giving way to a calmer period. The outcome is that this year may well show a small profit.

The co-ordination of the two companies should pose no problem on the military side. As manufacturers of personnel carriers and so on, both have done well out of the strong work-for-output in the January-May period was 9,897 vehicles produced by Berliet, 5,073 by Renault, and 5,872 by Umic, a French subsidiary of the Italian Fiat group.

On the bus side, there should

## Models

Saviem is given charge of the smaller vehicles, and Berliet the larger, the intermediate segment of the market is unaltered. It looks certain that there will be direct competition between the middle range due from Berliet shortly and existing Saviem models. But the underlying thinking is to achieve a growing interdependence of components, buttressed by an inevitably increasing number of joint subsidiaries. In time, the arguments may, Saviem and Berliet will grow into

About the merger came several years too late, and the challenge considerable if the new group was to make up the ground lost to Mercedes and Fiat, starting at home. While Fiat has 95 per cent of the Italian market, and Mercedes 60 per cent in W. Germany, Saviem/Berliet hold only half of the French market, or as it is, despite Berliet's ventures in China, and the fact that Renault might have a truck plant in Vietnam, the most successful of export markets. French super Ministry of Trade, analogous to MITI in Japan, to give exporters a better chance. In its absence the group is concentrating its efforts on particularly promising markets—Indonesia and Malaysia in South East Asia, for instance, and Black Africa.

Probably the greatest assets of the new grouping are that the Government is taking a keen interest in its progress, and that its fate is largely in the hands of Renault, a conspicuously well-managed concern and one which has adjusted as well as—if not better than—any other European vehicle maker to the changed world after the energy upheavals. The State gave Renault a wedding present of Frs.450m. at the time of the merger and further aid is possible. In the meantime there is a strong argument why Renault's success should not rub off on its truck division.

Robert Cornwell

## THE BUSY MAN'S GUIDE TO THE COMPLETE FLEET.



New Chevonne—1256cc Chevrolet engine—2 star petrol—stylish—comfortable—drives like a car—nearly half a ton payload.



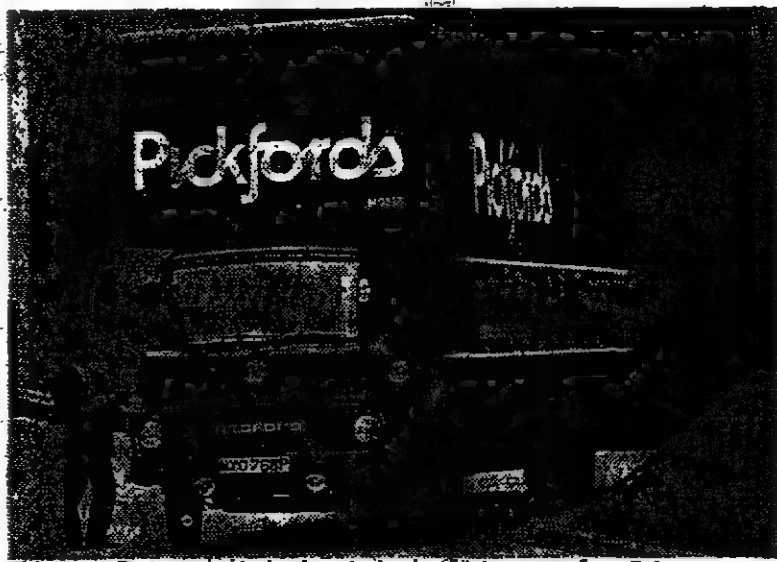
HA—Practical shape (88 cu ft cargo volume)—firm favourite with big fleets—low initial cost—two models.



CF—Whole catalogue of recent improvements—new option of well-proven 2064cc GM diesel—new high-specification cab.



Bus & Coach—PSV range including YLQ and YMT chassis with mid-engine design and Bedford 500 diesel—excellent ride and handling—low initial cost.



TK—Top selling range—4 wheelers, 6 wheelers and tractors—from 5.6 ton to 19 ton gross—re-tuned for high payload capacities.



TM Muscle Trucks—11 additional premium trucks, from 19 tonne 4 wheelers to 42 tonne double drive 6 wheel tractors—two full-width cabs (one a sleeper)—296 bhp Detroit Diesel 8V-71.

From light vans to top weight premium trucks. Expert advice on choosing the right vehicle for the job. And an unbeatable back-up and parts service.

We've enlarged the range at the lighter end with the introduction of the brand new Bedford Chevonne. It drives like a car. It's practical, economical, stylish and ridiculously comfortable.

In the middle of the range, CF models now offer you the option of the well-proven GM diesel engine.

We've developed our premium Muscle Trucks too. There are 11 new models up to 42 tonne—delivering

a lot more power and performance.

Our traditional reputation for providing reliable and economical transport is confirmed by the latest figures, showing Bedford to be the only one of the top four UK manufacturers to increase truck sales this year.

Taken with our latest developments outlined above, we think you'll agree; there's never been a better time to buy a Bedford.

Have a word with your transport manager about the complete Bedford range. He probably hasn't had a chance to read this paper yet.

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**AVIS TRUCKS**  
cut the cost of transportation by the day... week... month... quarter... and  
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Why commit capital in today's uncertain market. Now with the introduction of the Avis One Year Contract, you can have the best of both worlds: a comprehensive choice of vehicles, and rental periods from a single day up to 5 years Contract Hire.

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Let Avis cut the cost of your transport.

**AVIS TRUCKS**  
The try-harder truck people.  
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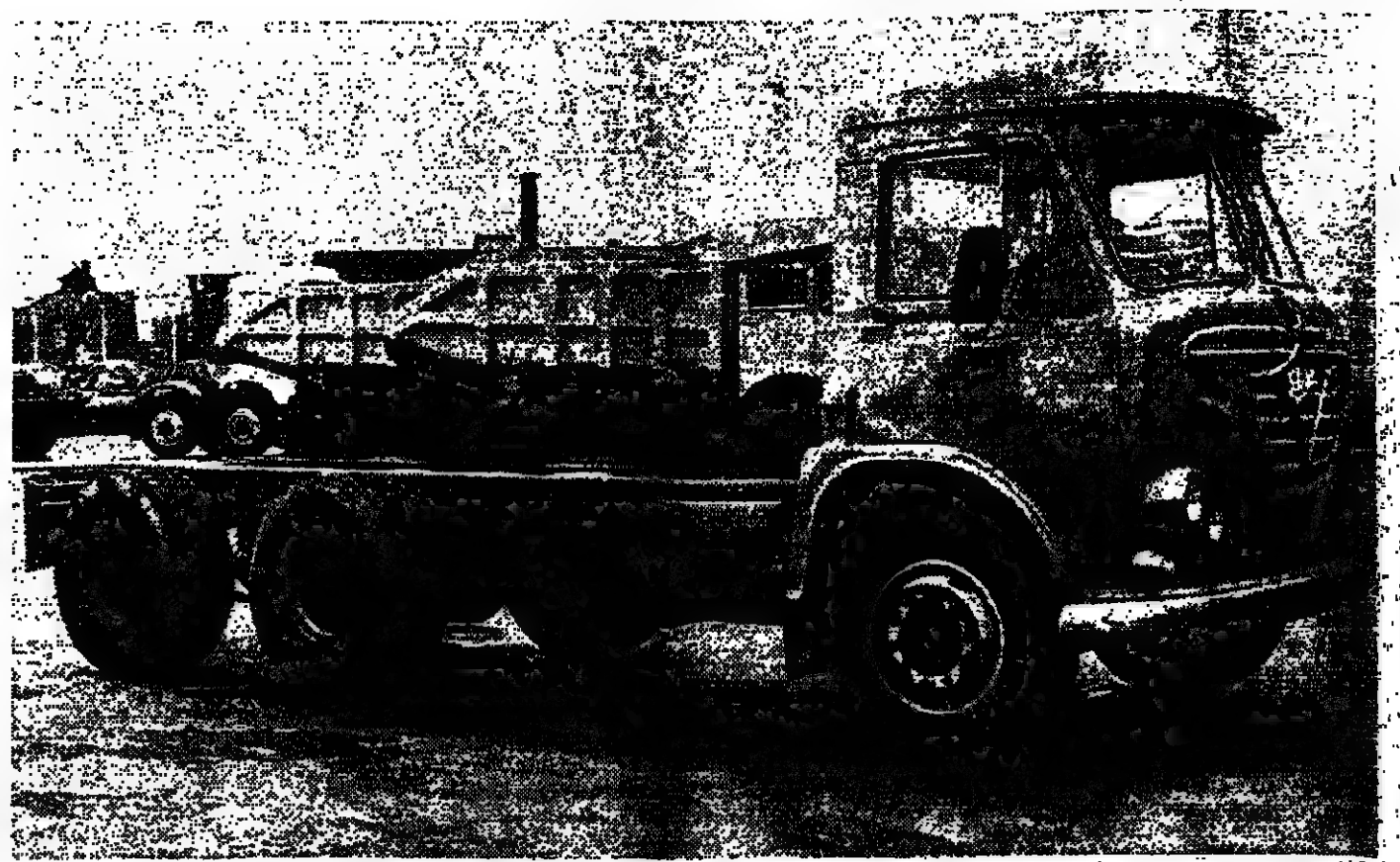
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Tel: 01-848 8785  
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## COMMERCIAL VEHICLES IV

# Designers battle with new rules



With a lightweight version of its six-wheeler, Fodens have saved 1½ tons.

THERE ARE no really new short in a small country because it does not take very long to set up adequate sales and service. Eventually the foreigner's price is raised to a more realistic level. But as fast as the market begins to stabilise there always seems to be another foreign price-cutter. The latest comes from the Communist bloc. After that, the Japanese can be seen on the horizon.

All this is in stark contrast to the glitter of new models two years ago. Europe's commercial vehicle manufacturers are in one of their periods of consolidation while they iron out the inevitable snags in these brave new designs of two years ago. The 1976 models might not look new, but they certainly make sounder business propositions.

This cyclical pattern of change followed by consolidation is understandable enough when you consider to-day's expectations of trucks. Operators these days are looking for heavy trucks to last half-a-million miles without major attention. It is impossible for a manufacturer to prove such a performance in the normal development time of a new model. Consequently, many refinements are always needed during the early years of service experience, purely to reach an acceptable standard of reliability—for it is by its reliability record that operators pronounce a truck "a good wagon."

## Reliability

Even reliability has its price, however, and foreign competition selling at 20 per cent below general level is beginning to worry established British manufacturers. Loss-leading is a popular way of getting imports established quickly in the British market. It is a familiar pattern and it usually works (though by no means always). The loss-lead period can be comparatively

because they do not know what limits on overall dimensions, gross weights or axle weights are going to be fixed either in Britain or in the Common Market.

In 1970, the EEC Commission originally proposed 45-tonne articulated (16 metres long) and 13-tonne maximum axle weight. The EEC Parliament, in 1971, thought this was fine, but preferred 42 tonnes gross train weight and 11.5-tonne axles. In 1972, however, the Economic and Social Committee recommended 12-tonne axles to get 38 tonnes on four-axle artics and it thought articulated vehicles should be allowed to be 16.5 metres long and gross 45 tonnes on five axles.

## Squabbling

But then the politicians—essentially the transport and foreign ministers—started squabbling. Ignoring the EEC Parliament, the Economic and Social Committee and the Commission, they compromised on 12-metre rigid, 15.5-metre artics, 11-tonne axles, 40 tonnes gross train weight and 7 hp per ton power-weight ratio. Nevertheless, if the EEC's ruling council thought the issue was settled, they were wrong. Along came the United Kingdom, flanked by its economic dependents Denmark and Eire. They put everything back in the melting pot. Decisions have been put off time and time again. Commonised weights and lengths are supposed to come into force in 1980. Still no one knows what the regulations will be. In the meantime the Italians have this summer introduced 44-tonne trucks, 15½ metres long, up to 13 tonnes axle weight and 8 hp per ton.

For there to be any progress at all on designs to cover any contingency, an ingenious complex of quantity-produced components has to be worked out. Then there can still be economy of scale in the manufacture even if the components are assembled in all sorts of

different combinations to suit limits on overall dimensions, gross weights or axle weights. The trouble is, of course, that demand for some combinations might be too small to use enough of some components to attain economic production. This is why there is a flurry of international co-operation on the Continent—the DAF, Magirus, Saviem and Volvo alliance to produce a medium-weight range of trucks; the exchange of vee engines and axles between Daimler-Benz and MAN; the formation of the Iveco group by Fiat, Magirus Deutz, OM, Lancia and Unic; the recent agreement between Iveco and Daimler-Benz to share a factory to make automatic transmissions.

On the face of it, no such enlightened co-operation is in evidence between British manufacturers. However, they already achieve the same result by their inter-dependence through the components manufacturers, which are a major inseparable part of the British motor industry. The British economy of scale comes from the factories of Clayton Dewandre, GKN, Rubery Owen, Burman, Armstrong, Intertruck, Lucas, Dunlop, Rockwell, Eaton, David Brown, Turan, Perkins, Cummins, Gardner, Rolle-Koyce, Smith, KL and so on. Apart from notable exceptions, such as Bosch, Fichtel and Sachs, Westinghouse and ZF, the Continental truck makers have been largely self-reliant for major components and so their economy of scale has had to be derived from big groupings and co-operative agreements.

## Silencers

Then the chassis designers have added heavy sound-deadening to the engine compartments and have fitted more effective exhaust silencers. Exterior noise levels of 85 decibels are now being achieved—a few years ago thought extremely difficult—and 80 decibels are in sight (which is at least as quiet as a car). The biggest problem in cutting noise is the low-frequency element which predominates in diesels, and this is where future research is having to be concentrated.

Then there is gearbox and axle noise. A drift to stouter casings, better-supported shafts, helical gearbox gears and hypoid-bevel axle gears is bound to be encouraged. All such developments should promise better reliability as well, fortunately. Signs of the times are the single-reduction hypoid-bevel axles of the new Fodens, big Ford and TM Bedford, the new all-helical synchromesh Turner gearboxes and the high-efficiency torque-converter automatic gearboxes from Allison and GKN.

Vibration and road damage are as much a matter of dynamic loading as sheer axle weight. The Government's own research has confirmed that much more are fitted at the back of trucks now, and why anti-skid equipment devices on the back wheels are so effective.

Pressures from the users for a premium on waiting time, so economy are just as great as those from the environmentalists for more civilised performance. Fuel economy is a big part of this, but transport economy is a further-reaching question. It concerns payload and productivity. Legislation has been a spur here to British manufacturers. Until the spring of this year the demarcation for needing a heavy-goods driving licence was 3 tons unladen weight. One

also have too much deflection result has been that British medium-weight trucks are under its semi-trailer can have difficulty backing under again. Progressive springs, such as the air of Dunlop and the rubber of Nordel and Rydewell, automatically adjust their stiffness and keep the deflection quite small.

## Braking

Braking stability is a key issue in the search for better and better safety. The fact that if the front wheels slide a vehicle keeps in a straight line but if the rear wheels slide it will try to spin round is now becoming the pre-eminent guideline for transport engineers. This is why load-sensing valves are fitted at the back of trucks now, and why anti-skid equipment devices on the back wheels are so effective.

Limitations on driving hours put a premium on waiting time. So the British transport scene is leader in the scale of usage of demountable bodies, containers, tall-lifts, side-access vans and low-loading heights—all will deliver. All these market influences have to be met by truck designers with a bewildering variety of specifications. To keep production economical as well is quite a challenge.

John Dickson-Simpson



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- purpose built for the carriage of hazardous liquid waste material.
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## COMMERCIAL VEHICLES V

## Light trucks and vans

IN WHAT IS virtually certain sales in the eight months to prove yet another lean year for the motor industry, the bottom sector of the commercial vehicle market—car-derived vans, pick-ups, and light trucks—is proving no exception to the general rather gloomy trend.

In the first seven months of the year, sales of car-derived vans and pick-ups in the U.K. totalled 49,491, slightly down on the 50,138 in January-August, 1975, while sales of other goods vehicles in the under 3½ tons class (including light 4x4 vehicles such as the Land-Rover) declined sharply compared with the corresponding 1975 total at 56,282 against 65,674.

In each case, the drop suffered by the home producers was at odds with the experience of the importers which, after thoroughly establishing themselves in the U.K. car market with a penetration said only a few years ago never to be possible, have for some considerable time been making a determined effort to repeat the trick in the commercial vehicle sector.

Thus, on the car-derived van and pick-up side the British manufacturers notched up January-August sales of 43,185 vehicles against 44,618 a year before; for importers the corresponding figures are 6,283 and 5,518 respectively—their sales actually rose. In the remainder of the under 3½ ton sector, sales of imports did fall, but only marginally. A total of 8,223 vehicles was brought in from abroad, just 789 fewer than in the same eight months of 1975. The British manufacturers, by contrast, saw a fall from 56,882 in January-August last year to 50,039 in the first eight months of 1976. And, by value, imports of goods vehicles of up to 3 tons gross vehicle weight were 55 per cent up on January-August, 1976 at £15.4m.

Those totals conceal a variety of performances by the individual companies competing in this important market, performances which, once again, bear a close parallel to what has been happening on the car side of their businesses.

Thus British Leyland was a big sufferer at the very bottom of the market, bedevilled by production problems of one sort and another as it has been. Its car-derived van and pick-up

A look at the corresponding figures for the importers does not reveal the same threat to the U.K. industry seen in the car-derived van and pickup sector. Datsun is not a contender—yet—and the Japanese companies which are—Mazda and Toyota—both saw their sales decline: Mazda's from 965 in the first eight months of 1975 to 807, and Toyota's from 2,042 to 1,342. None of the other importers managed to increase its sales either, though Volkswagen, the major company involved here, kept its decline in demand to the bare minimum, selling 3,903 vehicles in the January to August period of this year compared with 3,544 in the corresponding months a year before.

August itself saw what some figures in the industry believe could be the start of a real and sustained upturn in the lower end of the commercial vehicle market. There were 7,344 car-derived vans and pickups sold against 6,215 a year earlier. All three major British manufacturers registered gains on 12 months before, with Ford again making the largest headway at 1,967 sales compared with 1,416 in August, 1975. British Leyland was another major Japanese producer, Honda, in the U.K. car market at all in 1975, 1,318. Imports rose from 748 in August last year to 1,237, with Datsun's 507 vehicles making most of the running. The previous August, the company was not yet involved in this sector of the U.K. market.

For the remainder of the under 3½ ton field, August was also a better month. Total sales were up to 8,457 against 7,310 a year before, with British Leyland, re-asserting its strength once it moves from its car factories, was the only U.K. manufacturer to boost its sales this August, 1975, to 7,083. Ford year compared to last with 14,784 vehicles hitting the road against 14,311 in January-August, 1975. Ford's sales went down from 24,913 to 22,974, and Bedford's from 10,408 to 8,640. Most while Chrysler U.K. remained disastrously. Chrysler U.K.'s bottom of the pack at 503 sales dropped from 7,008 to 3,613, a fall which, to an extent, mirrors belatedly that seen in the company's car sales as a result of the loss of confidence among buyers engendered by August figures may be, the company's well-publicised extent of the demand downturn financial problems before is clear when overall figures for Government's rescue operation past years are looked at. In 1973, the van and pick-up mar-

ket amounted to just over 100,000 vehicles. Last year, it was down to 72,000. This year it may not make that. The medium truck sector was worth 90,000 sales last year; in 1976 it could easily be 5,000 or more down on that.

Again, the experience of individual vehicles reveal considerable variations in the overall market picture. Ford, for example, has significantly increased production of its phenomenally successful 11-year-old Transit this year (the one millionth left the production line four weeks ago), but only two months ago announced that it was ceasing manufacture of the parcels van derivative of its A series truck, the range designed to bridge the gap between the Transits, which go up to 3.5 tons, and the D series, which extends up the range from about 7.5 tons gross vehicle weight (the point at which drivers must have a heavy goods vehicle licence).

By contrast, British Leyland, whose overall U.K. sales were down, has continued to score significant success with the Land-Rover, with output up to record levels and considerable sales being made to new Third World markets.

For Chrysler, there is nothing immediate to lighten the gloom, yet the company could soon secure significant advances. Last month, it announced that it was all but dropping its long-established U.K. designations of Commer and Karrier (though a small range of municipal vehicles will continue to bear the Karrier nameplate) and switching to the Dodge name for virtually all its commercial vehicles.

Dodge, of course, is the name under which the company's heavier trucks have long been known: more importantly it is the name the Chrysler group already uses in the U.S. and in most Continental markets for its entire commercial vehicle range. The switch should, as the company says, allow it to make a greater impact in its promotion of U.K.-built trucks both at home and overseas, particularly when a new vehicle jointly designed for both commercial users but at private a more streamlined design

motorists seeking low-cost and engineering business across Europe, with Italy concentrating on heavy trucks and France probably becoming the centre for the lighter end of the market. With the Club of Ten, each company involved has local component options—Volvo, for example, using a Perkins engine—but most major parts, such as cab panels, are made centrally.

Then there are the hopes General Motors has for a deal with Poland under which it would be heavily involved in the creation of a new light commercial vehicle factory there—a deal which, if it comes off, could bring big orders to Bedford in this country.

Inevitably, of course, most attention to-day is being focused on the Japanese. Datsun's success in Britain was, it is clear, only a matter of time, and Mazda and Toyota have also made a significant impact here. On a world scale, and especially in the U.S. where demand is very high, the Japanese now dominate the pick-up business, a sector in which the European industry was once a strong force. In the 4x4 arena, Toyota's Land Cruiser has proved a major challenger to the Land-Rover in many markets: indeed, production, at about 100,000 units a year, is almost double that of the British Leyland vehicle (while American Motors' Jeep is made at the rate of about 120,000 vehicles a year).

Yet the only surprise about this Japanese challenge is, perhaps, that it took so long to emerge following the country's success in the car field. Datsun and Toyota are both, and long have been, very large-scale manufacturers of commercial vehicles, with, because of the Japanese road system, production concentrated at the lighter end of the market. And the marketing techniques, which have boosted their car sales so significantly are being equally deftly employed in this sector of the automotive industry.

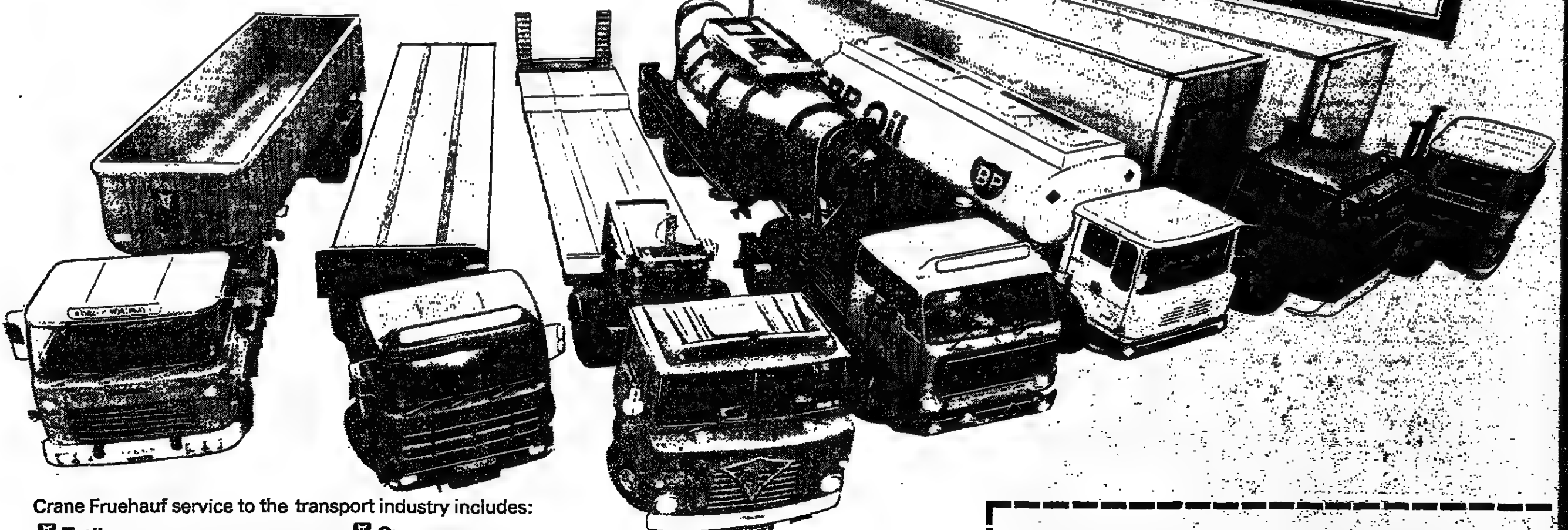
On a totally different front is the competition conventionally powered light commercials could find themselves facing from electric vans. Clearly this is a long-term prospect. Equally clearly, it is one which could prove a practical possibility.

David Walker

## STOP PRESS! 'Doubles' Systems in use on British roads for first time ever

Reed Transport became the first British operator to use the 'Doubles' System on British roads. The Doubles System, developed by Crane Fruehauf Trailers, was operated on runs between Kent and the North of England and demonstrated to full effect the advantages of motorway trunking with urban manoeuvrability which this system offers.

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## COMMERCIAL VEHICLES VI

## A key role in British exports

COMMERCIAL vehicle exports have been a strong factor in Britain's balance of trade since the war. In the last 18 months or so, as the car industry's decline has accelerated, truck and bus exports have become even more important. Cars still earn more overseas for the U.K. than commercial vehicles, but the latter are catching up fast; and whereas the car industry now suffers an adverse trade balance—imports exceeding exports—the commercial vehicle industry is still comfortably outdistancing imports, by a factor of about eight-to-one.

The main exporting strength of the industry undoubtedly lies in British Leyland. This tradition goes back to the old Leyland company, which from its base in Lancashire attacked world markets with unparalleled vigour in the 1950s and from this experience emerged as the dominant force in the British motor industry in the next decade. Leyland went by preference for the Commonwealth and Third World market—it broke through into Castro's Cuba, for instance, with a large bus order—rather than Europe, and thus established one of the broadest sales networks in the world for a single national company.

The value of this network was seen last year when Leyland's truck and bus group exported about half of its production worth £132m. The greater proportion of these products went to Commonwealth territories—West and East Africa, South Africa, Australia—plus a proportion to South America, where Leyland has won several large contracts recently. A healthy business has also been built up to Iran, which together

with Turkey has been the only significant Middle East market for the company's goods since it was placed on the Arab boycott in 1968.

Leyland's major competitors in the British commercial vehicle industry have similarly strong links with the Commonwealth. This is particularly true of Bedford, a company which, like Leyland, has a long tradition in commercial vehicles, along with a similar strength in the middle weight products. Bedford also managed to step up exports last year quite considerably, from 31,200 units in 1974 to 38,000.

## Entrant

Ford's exports also rose substantially in 1975, although the company is a much newer entrant to the large-scale commercial vehicle business than either British Leyland or Bedford. Its history is partly reflected in its marketing: Ford has made a determined attempt to get its commercial vehicles into Europe, a policy which has not with varying success, although the Transit van has unquestionably made great strides forward in several countries. The main area of Ford's weakness is Germany, a country where the company ought to be able to make progress in view of its long car manufacturing record there and its well-established dealer network.

However, in Germany Ford's policy of "value engineering," which means essentially producing cheaper, shorter-life vehicles, runs head on into the Mercedes concept of durable high initial-cost vehicles, and so far Mercedes has been more than holding its own. The



A two-ring gas cooker, a small wash basin and a refrigerator are just three features of the new Long Haul cab for the Ford Transcontinental.

appointment of Herr Bob Lutz, Leyland. In the Ryder report, EEC has come into being, and former head of Ford in Germany, to add a spur to the development of the kind of sophisticated vehicles which have been seen as a move to add more total European market by 1982, become established on the international trading routes of Europe. The target creates two challenges for Leyland. First, it has to improve its products at the top end; and second, it has to

establish a Europe-wide sales and service network capable of taking on well-established concerns like Mercedes, Iveco and the Scandinavian producers. In terms of product, Leyland has already begun to hit back at European competitors with the development of the Marathon, like Ford, Bedford has benefited from the fact that its parent company, General

to win back sales, most people Motors, has no commercial in the business except that the vehicle manufacturing organisation company will have to do a lot of work on the Continent, and there more development of its products in this range if it is to be integrated into the dealer take on European manufacturers network of Opel, GM's German subsidiary.

The marketing problem facing Leyland in Europe is probably even more acute. At present the company has very limited representation outside the Benelux countries. Yet to become a credible force in the heavy truck business, which basically means selling to international trading operations, Leyland must establish a network of dealers with good service facilities across Europe. International hauliers operating vehicles costing £20,000 and carrying loads often worth just as much, cannot afford to have vehicles laid up through lack of spare parts. To combat this, even medium-sized European companies like DAF have extensive dealer networks, even extending on the long routes into the Middle East opened up since the oil boom created a new market in the Gulf states and Iran.

To a greater extent than Leyland, both Ford and Bedford already have a dealer base on which to work in Europe, derived from their more extensive car operations. In Ford's case the company has also had an appropriate vehicle—the Transit—to graft onto selected car dealerships. The idea has been to expand from this base into heavier products and eventually to the Transcontinental, Ford's new competitor in the heaviest end of the market. Development of the Marathon, like Ford, Bedford has benefited from the fact that its parent company, General

For some time there has been evidence that the GM organisation has been too cumbersome to give Bedford the flexibility it needed in Europe, but there are signs that this is now changing.

## Rewards

Bedford may also reap significant rewards from the advances now being made by GM in Eastern Europe. The group has recently signed a deal with Bulgaria under which Bedford trucks will be exported in exchange for Bulgarian fork lift vehicles; and the company is also aiming to establish a major link with Poland involving the sale of Bedford technology for a new light truck in exchange for the right to sell the vehicle in certain Western markets.

Europe, embracing the EEC and the Common market, remains both an opportunity and a challenge to the British industry—a challenge that really has to be taken up if it is to remain in the front of world commercial vehicle manufacturing. It is a reasonably successful sales business in Europe could in the next few years be grafted onto the U.K.'s successes in other parts of the world; the British CV industry would be assured of maintaining its pre-eminent place in the U.K. exporting league.

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# DODGE



What's in a name? In the name DODGE there's toughness to excess. Long-lived ruggedness. A reputation recognised by demanding truck operators for 55 solid years—ever since DODGE first became an established British Company.

But it's also a name that is established all over the world. Until today, three other names, equally illustrious, accompanied DODGE in our truck and van ranges. These names identified some of the best payload/quality/value combinations on the British Commercial vehicle market... Characteristics that will remain with interest.

Naturally, we are reluctant to let some of these names pass into history. But good commercial sense dictates one name world-wide.

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DODGE means world-wide standards of expertise in engineering, production, quality control, service and parts availability—all working to produce even better vans and trucks for our customers.

DODGE, a great name—and a great range. Under the one name Dodge we offer a range of vans and trucks from 10 cwt payload to 38 tonnes GCW. Our vans include the versatile Dodge 1100 series standard vans, high tops and pick-ups, the Dodge Spacevan with 200 cu. ft. of usable load space and the big 'van-about-town' the Dodge Walk-Thru.

Our truck line up begins with the tremendously successful Dodge Commando 100 series and extends through the Dodge 500 series 2 and 3 axle rigids and tractors, up to the mighty Dodge K38 tractor.

## Components sector

THE motor industry is confidently predicting that component exports this year will again stride ahead to no less than some £1,400m, getting on for half of total automotive shipments. Most of this will admittedly come from makers supplying the car assembly lines, the volume end of the motor industry. But a significant and growing value is coming from those supplying commercial vehicle producers. While the volume is much less, the average value per unit is much more and it may also help to put their contribution into sharper perspective to note that in addition to direct exports represented in a forecast £530m. of commercial vehicles for this year they are also winning a rising value of direct exports.

Total exports of components, parts and accessories topped £1bn. for the first time last year, moving up no less than 34 per cent, from £855m. to £1,143m. But the big performers were commercial vehicles. They overcame a contracting home market in which business dropped to a third in some areas by pushing exports up by more than 70 per cent to £428m. and it is evident that this year the figures are going to look even healthier. Considering that first orders in the goods transport market can generally be relied on to be followed by repeat orders, because no one likes to have a diversified fleet with its attendant complications in maintenance and spares, it is clear that the component industry is heading for even better things.

The 1975 fuel crisis gave an immediate fillip to diesel engine production, with manufacturers worldwide planning an extra 50 per cent increase in annual output. For Perkins last year's result was 18 per cent higher than the previous year and it is currently completing a £30m. investment to bring capacity to well over 300,000 units, around 85 per cent of which will be exported.

But possibly the fastest growth has been achieved by Cummins, which established itself at Shotts, in Scotland, some 20 years ago primarily to provide power for American-designed equipment made in the U.K. like Caterpillar. It is now operating seven manufacturing sites, contributing to sales totalling almost £50m. last year. The investment has aggregated £51.8m. to date and created some 6,000 jobs.

Starting at Shotts with engines in the 200-400 hp category for heavy duty trucks, cranes, dump trucks, generator sets and so forth, it went to Darlington and built a factory making high-speed V-engines. These are Cummins' sole source of 180-240 hp engines for automotive and industrial applications, an achievement recognised by Queen's Awards. Three years ago a further plant was opened in Daventry, this time to make heavy industrial engines.

While it is true that the biggest producers like British Leyland, Ford, Bedford and Chrysler have their own engines now power nearly half the U.K.-produced trucks of 32 tons gvw. Americans are also making a big contribution in another important area of production—specialist suppliers, perhaps particularly engines, in order to tailor their products to customers' needs. And assembly divisions at Aycliffe, near Leeds, where a £15m. axle housing plant was recently commissioned, and from transmission divisions at Manchester and Basingstoke.

These successes owe a good deal to the share being taken by transatlantic companies. In

The axle division is introducing at the show a prototype of the 44-tonne gross combination weight single drive axle and a cam brake which, it is claimed, can be refitted in two minutes. The transmission division is introducing the 12-speed mechanical transmission that automatically shifts itself when it reaches synchronous speed in a driver-selected gear.

## Axles

Chasing it hard is another American multinational, Rockwell International, which through its association with Rubery Owen, the Darlington (Staffs)-based private engineering group, provides most of the trailer axles. Though rather a late starter, Rockwell plans to expand output of heavy-duty driving axles to take a major share of the European market in the over 10-tonnes load capacity and has also invested some £2m. at the Rockwell Maudslay plant at Alcester, near Birmingham, to make a new two-speed axle. Direct exports of axles, now some 5 per cent, are planned to rise to 50 per cent of output before 1980. At the same time production of a new braking system is being co-ordinated in the U.K., France and Germany in a multi-million-dollar programme.

One of the oldest-established U.S.-based companies is AC Delco which, as AC-Spartan established itself in the U.K. in the 1920s to provide spark plugs. To-day it makes a comprehensive range of components, mainly electrical ("If it moves we make it a part of it") and has four factories in this country, with Vauxhall and Opel in Germany (General Motors) among its biggest customers. Some two years ago an associate, Detroit Diesel Allison International Division of General Motors, began production of high-speed two-stroke engines in the 200-400 h.p. range at Wellingborough. While assembled mainly from U.S. components, the local content is growing. It is the only site outside America where these engines are made—mainly for heavy duty applications—and a bright future is predicted for its operations.

In at least one instance, the arrival of a transatlantic company marks the turn of the commercial wheel. Many years ago Salisbury Transmissions in Birmingham acquired a licence from Dana-Spicer and is now owned (together with Hardy Spicer) by GKN. Recently set up in Leamington Spa is Soma Europe Transmissions, with a plant at St. Etienne, France, in which Dana has a one third interest. Soma is offering an equivalent range of axles to GKN in the 1-35 ton capacity bracket. Dana also, incidentally, has a half share in Tur-

CONTINUED ON NEXT PAGE



**Dodge Trucks**  
one great name world-wide





## COMMERCIAL VEHICLES VII

# Environment issue back in the limelight

WORRY ABOUT the noise, vibration and disruption caused by the heavy lorry has placed demands upon the commercial vehicle industry over the decade. While considerable improvements have been made, Government's recently published transport policy consultation document makes it clear that much more needs to be done.

It is proposed that it would be better for the environment if the growth of road traffic, our cities it results in noise and often hideous visual pollution. It spoils many of our cities. It results in health, personal stress and social damage to the urban fabric. And where heavy lorries are used on residential roads, living conditions for the residents are badly affected. In our smaller towns and villages traffic is an inhuman contrast to the heavy lorries thundering through narrow streets.

## Regulations

The document does point out that British regulations on lorry weight, noise, fumes and safe loading are more effective than those of any other member of the European Economic Community, but suggests that more action is necessary.

The various weapons available to central and local government are identified as the road programme, taxation, national vehicle regulations and local traffic measures. The controversial four point plan advocated in the consultation document is serious implications for the manufacturers of commercial vehicles.

First, the Government states that it intends to give more emphasis to environmental considerations when considering

highway plans. Greater priority will be given to schemes which bring significant benefits to the environment, such as by-passes to take traffic away from sensitive and heavily congested areas.

But the proposal which has brought the biggest outcry from the haulage industry is the recommendation that commercial vehicles, especially heavy lorries, should meet not only the resource cost which they impose upon the community but also an additional element to cover environmental costs.

Until the last few years goods vehicles as a whole have contributed substantially more in fuel and licence taxes than the road provision and maintenance costs which could reasonably be allocated to them.

The Department of the Environment maintains that recent estimates show the resource costs arising from lorries—particularly from heavy lorries with few axles—well exceed the taxes levied on their use. Goods vehicles over 3.5 tons gross vehicle weight contributed only about 80 per cent. of the road provision and maintenance costs which could be attributed to them in 1975-76. The Department concedes that estimates of the environmental costs cannot be made with the same degree of confidence but suggests they are likely to be "significant".

One of the suggestions is that vehicle excise duty should be restructured in order to reflect the resource and environmental costs imposed by different types of lorry. Thus, there would be steeper tax increases for heavy lorries, particularly those with few axles and high axle loading which cause disproportionate damage to the roads.

The Department maintains that because demand for road freight appears to be largely price-inelastic, such tax changes would not radically alter the volume of traffic. Bulk traffic over long journeys would have the greatest incentive for switching to rail, while empty

or part-loaded running would be discouraged.

The consultation document acknowledges that freight costs would be raised and the increases ultimately passed on in part to the consumer. "On present estimates the average annual operating costs for all commercial vehicles might eventually rise at the most by 5 per cent, with maximum increases of about 15 per cent. for some of the heaviest vehicles."

To give both the vehicle manufacturers and the haulage industry adequate time to adjust to such changes, it is suggested that tax increases on road freight should be phased over a period. To underline its determination to press ahead with new measures the Government is seeking legislative powers to begin the process of recording data about lorry axes and laden weights.

Undeterred by the hard line of the consultation document, the commercial vehicle industry has again begun to campaign for the raising of the heavy vehicle weight restriction in the U.K. from 33 tons to the 38 tons which is generally accepted within the EEC.

Mr. David Plastow, president of the Society of Motor Manufacturers and Traders, argues that heavier lorries would produce an immediate benefit in cost and environment; congestion would be reduced as fewer vehicles would be needed to carry the same loads.

## Similar

Mr. Plastow maintains that the trucks would look no different from present and would still have to comply with similar noise, safety, pollution and other legal requirements. "They are a bonus which Britain is to-day denied—and the lack of a home market for such vehicles also makes Britain's industry less competitive with the big international competitors in the market."

The third point of the action

plan suggested by the consultation document is for further moves to reduce the impact of the heavy lorry on the environment by measures such as strengthening noise and smoke controls, improving the system of vehicle inspection, and seeking to develop, as resources permit, an adequate system of lorry routes to take heavy traffic away from unsuitable roads and residential areas.

The fourth call is for a stronger approach to the control of traffic in towns—bus priority schemes, parking controls and traffic management.

Considerable research and development into ways of combating noise and pollution is already underway within the commercial vehicle industry. A report by the Road Research Laboratory suggested that between 30 and 50 per cent. of the U.K. urban population live in roads with traffic flows which produce noise levels likely to be judged undesirable for residential areas. Unless remedial action is taken the problem can only get worse as the volume of traffic increases.

The extent of the research necessary can be appreciated once it is realised that it is not only the engine that is the cause of roadside noise but also the induction, exhaust and cooling systems as well as the transmission and the tyres.

Strong support for more research into remedies for the environmental problems of the commercial vehicle has come from the State-owned National Freight Corporation. Such a positive approach would be better than imposing "a continuous penal tax on failure," says Sir Daniel Pettit, the chairman.

The corporation argues that the role of the Government should be to stimulate and promote research and development by vehicle manufacturers into methods of reconciling the lorry and the environment.

The heavy vehicle could not

be willed to go away by penalisation but it could be improved by attention to alleviating its noise and pollution effects.

"Here we are in the world of design and experiment, and a much bolder and more positive encouragement by Government to manufacturers, suppliers and users of road vehicles is called for."

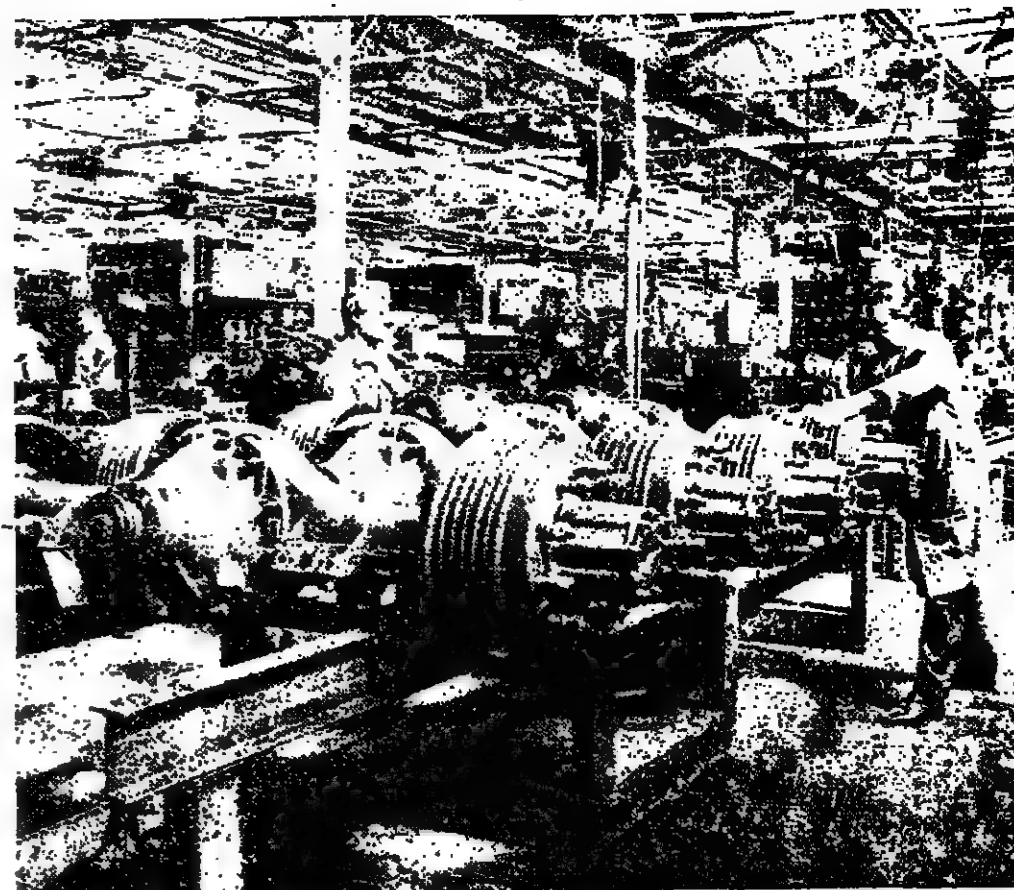
NFC itself has a continuing programme of co-operation with vehicle manufacturers to deal with problems such as engine noise. As an example of such ventures the corporation points to the recent development with Chloride and Chrysler of the Silent Karrier battery-operated urban delivery vehicle.

The consultation document has certainly brought the environment issue back into the centre of debate and thrown into focus the problems which confront the commercial vehicle industry in attempting to raise standards.

The document was originally drawn up while Mr. Anthony Crosland, now the Foreign Secretary, was overseeing the Department of Environment. Since then Mr. Peter Shore has taken over the department and in the latest cabinet shuffle the Prime Minister has split off transport as a separate department headed by a Minister of Cabinet rank, Mr. William Rodgers.

Following the transfer from Mr. Crosland to Mr. Shore the public utterances of Ministers suggested a change in emphasis in the approach to transport issues. It remains to be seen what influence Mr. Rodgers will bring to bear on the final shape of the Government's transport policy. For the commercial vehicle industry, the issues at stake are vital to the business decisions which must be taken over the next few years.

Arthur Smith



An axle assembly line at Rockwell's plant in Alcester, near Birmingham.

## Components

CONTINUED FROM PREVIOUS PAGE

Manufacturing. Wolverhampton, which makes gearboxes to go with the rest of the transmissions.

Such developments illustrate the strength and breadth of the American involvement—and its faith in the future of the U.K. component industry. Nevertheless, these operations have tended, until comparatively recently, to be outposts in a wide-ranging empire to be allied to automotive developments in the U.K. by other American companies. And while they have benefited from being able to bring with them a fully developed technology in the transportation of big loads over thousands of miles, British companies are now challenging much more strongly in these chosen areas of the market.

Having established themselves as component suppliers to European and world markets (being much more numerous on the ground on the Continent than Americans) they are pressing ahead with new products, or aluminium alloy truck wheels exploiting available technology

from the Continent or the U.S. to reinforce their enviable position, which yields such good profits in the after market.

Many of the top names in the component industry have already become, or are fast becoming, as well known as household names in the consumer goods field—GKN, for instance, Lucas, Automotive Products, Associated Engineering, Chloride, Ferodo and many others. Lucas, through its associate CAV, is making a massive investment in diesel fuel pumps with the object of becoming one of three world suppliers.

GKN has a somewhat similar aim in the crankshaft market with a multi-million pound investment in highly sophisticated plant, and has already won a \$4m. American contract. Another division has recently started to produce the first

aluminium alloy truck wheels which offer weight savings of up to 46 lbs over an equivalent steel wheel.

Girling, representing Lucas, recently introduced a system with advanced features with which it plans to win a third of the estimated £22m. brake market in Europe by 1980. It already has factories in France and Germany which, with U.K. plants, have helped to bring Girling 20 per cent. of the European brake market. In the engine field, despite the fierce competition, Gardner, with its fine reputation for reliability and fuel economy, is regarded as the Rolls-Royce of diesel engines—even though the R-R Eagle range is highly regarded.

It is perhaps a little uncharitable to be able to mention only a few of the hundreds of component suppliers who are making substantial contributions to this year's exports of around £1,400m., but at least it helps to underline the success by a key industry.

## Contract

Peter Cartwright

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## COMMERCIAL VEHICLES VIII

# Fuel costs stimulate diesel development

EXPENSIVE FUEL has been part of Britain's economic scene for as long as most people in road transport can remember. It has at least, however, stimulated an obsession about fuel economy which has made Britain a world leader in automotive diesel design. The U.K. is the world's largest producer of diesel engines for direct automotive applications or derivatives from them.

This year should see over 300,000 automotive-style diesel engines exported by the U.K., worth over £175m., plus another £56m. of parts.

Apart from the engines of the chassis producers, Bedford, Ford and Leyland, there is magnificent strength from the engine specialists, Cummins, Gardner, Rolls-Royce and Perkins. Altogether they offer an impressive range of engines from 30 to 350 hp, with character as diverse as the fast 5-litre Cummins and Perkins V8s to the slow 10½-litre in-line six and 14-litre in-line eight of Gardner.

The higher speed diesels, such as the Perkins, are renowned for their low cost and attractive power-to-weight ratio. The reputation of the big, slower diesels from Cummins, Gardner and Rolls-Royce lies in their long life, reliability and excellent fuel economy. These in-line engines regularly cover half-a-million miles (750,000 km) before major overhaul.

All these diesel engines are four-stroke, but this year production started in England of the two-stroke Detroit Diesels of the General Motors Corporation.

These V6 and V8 engines of American design are being supplied mainly for the Bedford TM 32/33-ton trucks, but they are also fitted to British heavy trucks assembled in Australia and Africa.

The current world market for diesels amounts to about 3.3m. units, including car applications. Depending on the expansion of car installations, this market is expected to reach between 7 and 8½m. by 1985. The market leader, Perkins, expects its own output to double its present 511,000 a year. New Perkins plants are starting in the U.S. and France. Factories in West Germany, Brazil, Mexico, Argentina and Peru (with Volvo) are to get further investment. Then there are the engines built under Perkins licence in Korea, Iran, Japan, India, Bulgaria, Greece and Spain.

## Bid

Now Perkins is making a bid for the heavy truck market. At this year's Commercial Motor Show, Perkins introduces its new turbocharged TVE.640 diesel engine. This 10.5-litre unit considerably extends Perkins power capabilities in the top end of the commercial-vehicle market. With intercooling the engine goes up to 290 hp. This could have far-reaching possibilities for future heavy-truck applications because of its compactness (only 34 in. long) and saving of over a quarter of a ton compared with in-line engines of similar power.

This welcome saving of precious fuel has mainly come about through better appreciation of what can be achieved with turbocharging. Once an engine is fitted with a turbo-

charger (a supercharger which is driven by a turbine in the exhaust stream) the development engineers can play almost any tune. They can just turbocharge without altering the fuel supply. They can alter the speed at which maximum torque, or pulling power, comes in. They can adjust the fuel-consumption pattern to give better economy for whatever sort of operation they want to consider specially.

Even in 215 hp naturally aspirated form the new V8 engine is going to be a force to be reckoned with. This V8 development could open up again the controversy on the relative merits of vee and in-line. Past experience has been that vee engines give poor reliability and life compared with traditional in-line sixes. Engineering development proceeds apace, however, and the next generation of vee diesels might well be formidable contenders.

Getting vee re-established could be as much an exercise of public relations as of engineering. After all, the Cummins vee diesels made at Darlington are also giving a good account of themselves and are being made at the rate of over 25,000 a year—but nearly all are exported. In the heavy-truck world the main confidence is in in-line engines, of which Cummins make about 9,000, and Rolls-Royce and Gardner about 4,500 each. Output of Rolls-Royce diesels is already increasing to 5,000 a year and Gardner has started a programme to expand output by 30 per cent.

Fuel economy is still a prime source of development on all diesels. Coming on stream are engines with 20 per cent more power yet with better fuel consumption—up to 12 per cent better.

This welcome saving of precious fuel has mainly come about through better appreciation of what can be achieved with turbocharging. Once an engine is fitted with a turbo-

## Help

The engineers have found that today's operations involve a lot of time in the last 10 per cent, or so, of the engine-speed range, but that the work which the engine has to do is, overall, only about 60 per cent of what it is capable; only comparatively rarely is full power needed. So development has gone all out to get better fuel economy on part load.

Turbocharging has been a big help. For example, making an inlet pipe narrower increases the speed of the air going into the engine. That makes the swirl in the combustion chambers more vigorous and that is usually good for efficient fuel mixing—but would

normally restrict the flow, or breathing, at higher speeds. But turbocharging restores the air-flow, and the power—and keeps the exhaust clean too.

One result of this recognition of the significance of part-load fuel consumption is that a high-powered engine can be more economical than one of lower power. The new turbocharged Rolls-Royce 265 hp engine to be seen at the Commercial Motor Show can be more economical than the 220 hp naturally aspirated model. On fast hauls the latest turbocharged 290 hp Cummins can give 91 per cent better fuel consumption than the naturally aspirated 240 hp Cummins.

Both Cummins and Rolls-Royce found they could give an immediate improvement in fuel economy by lopping off the last 200 rpm. So their economy engines are governed at 1,900 rpm instead of 2,100 rpm. It has been a long-standing practice with Gardner diesel engines, which are the most economical in the world. Now the same approach is being introduced by Leyland with its 8-litre fixed-head diesels.

The usual snag with narrowing the speed range in this way is that a gearbox with more and



The fitting shop at Perkins Engines' factory at Peterborough.

closer ratios is needed to maintain the equivalent road performance. Engine makers have avoided such changes to the transmission by stepping up the maximum torque. That way the percentage gap between governed speed and high-torque speed has been kept much the same or better and the same percentage steps in the gearbox retained. The higher torque means that hill-climbing is just as good, with faster gearing in the back axle, as it was before—in fact better.

Irrespective of the power of the engine, a vehicle needs just a certain amount of power to drive it at the chosen speed. On a level road it generally takes between 190 and 222 h.p. to drive a 32-ton articulated unit at 60 mph (depending on its aerodynamic efficiency). That required power stays the same whatever the power of the engine. A 240-h.p. engine may be working quite hard, but a 290-h.p. engine is having a comparatively easy time and it can be giving the required power

for less fuel, because it is on its more economical load bands. The engine makers say they can do even better. They are working on water-jacketing the incoming air so that it is cooled and made more dense. Combustion chambers (which are recessed in the tops of the pistons on diesels) are being made a smoother shape. More precise throttle control is being incorporated in the fuel-injection pumps. And even better turbo-charger matching is on the way.

John Dickson-Simpson

## U.S. market integration

FOR A long period after the last war the commercial vehicle industries in the U.S. and Western Europe went their own way. Neither, it seemed, had much to offer the other: the U.S. industry had grown up on the basis of long-distance haulage by heavy vehicles, while the Europeans, dealing with smaller national markets, had less need for the big vehicles of the kind being made in the U.S. But the creation of the EEC has produced a very different situation.

The Common Market brought into being, albeit gradually, a more international trading unit. At the same time the member countries embarked on a trunk road-building programme which spanned the whole of the Continent and began to relax customs methods on the specially designated TIR (Transportation International Routiers) loads. Within the last decade, therefore, the concept of long-distance haulage, as known in the U.S., has begun to emerge in Europe as well.

These developments inevitably attracted the attention of the American-based truck and truck component concerns. While the U.S. commercial vehicle market is still expanding at the top end, the prospects of vigorous growth were much more hopeful in Europe in the middle 1960s. Thus in this period the big multinationals—General Motors, Ford and Chrysler—began to work on the development of their own ranges of heavy vehicles for Europe.

Of these three, Bedford, the Vauxhall subsidiary, was the only company with a substantial reputation in the heavier weight vehicles. The company had become a dominant force in trucks of about 16 tons gross vehicle weight—what today is regarded as the middle sector of the heavy vehicle industry—with a presence both in the U.K. and traditional overseas British markets. Ford's invasion of the U.S. has to-day carried it to one of the pre-eminent positions

in Europe in terms of volume, only began to develop seriously in the mid-1960s; and Chrysler Mack has established a dealer network on the Continent, and the company is now attempting to do the same in the U.K. But it remains to be seen whether a policy of direct exports of big trucks from the U.S. can succeed.

The other side of the invasion from North America is seen in the component companies. The most significant of these are Cummins (heavy diesel engines), Massey Ferguson (which owns Perkins, the British diesel manufacturer), Eaton (axles and gearboxes), Rockwell (axles) and Dana (gearboxes and axles). All of these have followed the tide of the U.S. vehicle manufacturers, tending to build on their established links with these companies. Indeed, American-controlled companies have been much more willing to develop vehicles based on proprietary parts than most Europeans: the Ford Transcontinental, for example, uses a Cummins engine, an Eaton gearbox, and a Rockwell axle, all parts bought from U.S.-owned, British-based suppliers.

Within the last 12 months U.K. diesel engine suppliers have been reversing the flow of investment by pushing into the U.S. themselves. Perkins, for example, has bought a factory recently, and so has Hawker Siddeley and, more recently, GEC. Much of this investment is aimed at stationary industrial engines; but there is no doubt that the European diesel component manufacturers also see a great opportunity to sell their smaller units in the U.S., now that rising petrol prices are persuading American companies to convert their smaller vehicles from petrol. The opportunity in this sector is open because the U.S. market still remains highly petrol orientated at the lower levels of vehicle weight. Because petrol has been historically cheap in the U.S., and because diesel fuel distribution has been limited to the heavy trucking routes and the coast

states, U.S. operators and manufacturers have been much less influenced by the arguments over the economic considerations in favour of light diesels. But a change of thinking is being investigated the market and already apparent. Oldsmobile, the GM subsidiary, has now similar drive in the future, developed a diesel unit to put there are undoubtedly considerable problems for European-type producers exporting to the U.S., partly associated with the product which has to be adapted for the different running conditions and legislation. The main difficulty in tackling the market, however, is that the U.S. trucking business is organised around much larger fleets of vehicles than in the U.K., and to get into these fleets requires extremely hard selling.

Nevertheless, ten years ago the European manufacturers would not have even been interested in the U.S. It is a measure of the changes that have occurred in the European market, and the convergence of the two industries, that such attempts are now being made.

Mercedes is also one of the European truck producers to have begun to export to the U.S. The Mercedes aim is to increase U.S. sales to about 2,000 units a year, the rate at about which the vehicles will be able to make a profit. But the German company has been forced to abandon plans to export from Germany because of the revaluation against the dollar. Instead,

## Revaluation

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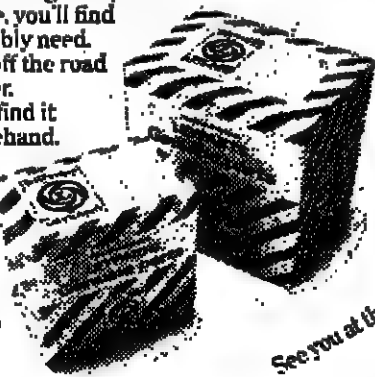
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400 Series 32-ton tractor with sleeper cab and 228bhp Cummins NHC-250 diesel. Performance with economy.

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400 Series 32-ton tractor with the new Rolls-Royce Eagle 265 diesel developing 256-280bhp. Turbocharged efficiency.



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"Outstanding fuel consumption was returned by the Seddon on the CM Midlands Test Route. At 21.7 litres per 100 km (13.0 mpg) this was better than either the Ford T14 or the Bedford YMT also tested this year, or the Volvo B58 tested in 1973. On 'A' roads at speeds averaging 56 km/hr (35 mph) the consumption rose to 19.4 litres per 100 km (14.6 mpg). The Seddon coach was easy to handle and gave the driver a feeling of

reliability and solidity...the steady throb of the Gardner engine was also infinitely more relaxing than the high pitched whine of front-mounted turbo units."

Already renowned in world truck markets for its reliability, silence and wide range of usable power, the International D-358 diesel is now winning the admiration of British operators.

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## COMMERCIAL VEHICLES IX

## Leasing much in favour

INFLATION continues to push up the price of new commercial vehicles and operators face difficulties in finding money for re-equipment of fleets, there will be an important role of companies offering leasing facilities.

There is no doubt that the favourable economic conditions of the past two years have been the decisive factor in the leasing amount of leasing which has been increased. It has provided those companies which need to invest, but which may have no money, with the facility to do so without undue burden on their resources.

It is argued that while the use of money has been declining, it is wiser to use whatever funds are available in assets which are likely to appreciate in value, while allowing expenditure on vehicles to be spread over a period, thus reducing the cost.

It is estimated that leasing accounts for nearly 10 per cent of all capital expenditure in the U.K. and its role in the industry where pressures have been placed against new investment, recognised as a valuable one by both Government and industry alike.

Britain's equipment leasing companies had a record year in 1975, buying new plant worth 40m, and boosting the total stock of leased assets to £1.4bn. The Equipment Leasing Association said earlier this year that its 35 member companies so collected a record £290m in lease rentals compared with £22m in the previous year. At the end of 1975 the total number of leased contracts on members' books was 334,000.

Although there has been some improvement of the economy this year, it is confidently expected that these figures will be exceeded this year, but there is some concern about the recent rise in interest rates which could have a dampening effect on transactions. Nevertheless, while companies remain short of working capital, there may be no alternative but to accept less favourable rates.

Vehicle leasing and rental is one of the largest sectors of hiring in the country, perhaps as a result of the relatively short useful life of a vehicle. It is also eminently suitable for this type of financing due to the industry's sensitivity to changes in demand for goods and the need for operators to maintain a high degree of flexibility.

To this end "service leases" have emerged as one of the most popular contracts, under which the financial aspects of the deal are supplemented by management services, spares, replacement vehicles and facilities which allow the vehicle to be operated at fixed costs with minimum risk to the operator.

## Terms

The four major clearing banks all have large leasing subsidiaries as do the merchant banks and finance houses. There are also a number of specialist leasing concerns which are able to offer highly specialised services when necessary.

There is little to really distinguish one company's basic terms from another, because they are all bound by the same constraints of minimum lending rate, but each can often offer deals tailored to the requirements of the operator.

Smaller companies are perhaps best suited for the two main forms of vehicle hire. They can take advantage of this source of very competitive additional funds, created largely by the economies of scale generated by finance companies.

A hiring contract could be described as the equivalent of a medium-term loan, secured on the vehicle, allowing hidden gearing without the need to create extra charges on existing assets. At the same time capital is released and can be diverted to other expanding parts of the business.

As for discounts normally associated with outright purchase, the small company can capture these through the medium of the finance com-

pany, providing that the hirer does not take such savings into cost and profit. The revenue aspects of repayment are obviously important and in this respect tax rebates on purchases can vary considerably, while hire payments are a business expense.

In its most basic form leasing is an agreement under which the lessor, in most cases a finance company, leases the vehicle in question to the lessee at a predetermined rate. At no time does the lessor lose title to the vehicle and when the contract is terminated, the lessee returns the vehicle to the lessor.

Under "open ended" leasing, for instance, a contract may be written over a period of perhaps four years and is written off on that basis. If the operator cancels beyond a certain minimum period, the vehicle may be bought at a pre-determined price.

In some agreements the lessee may receive a credit, perhaps in the form of a down-payment on his next lease and in others there is no participation where, for example, a vehicle has been written off over a "primary" period, and the operator continues to pay a nominal rent over the secondary period.

A closed end lease is the same as contract hire, without maintenance. Under contract hire the operator acquires his vehicle, again for a pre-determined period and rate, but including maintenance and tyres, tax and replacement vehicle, should the original be off the road for more than 48 hours.

The important factor about the lessor continuing to retain ownership of goods although he is not using them means that he can claim the capital allowances and grants accruing to a particular piece of equipment and can reflect these in lower rentals where possible.

On the other hand, the lessee has no allowances or grants and has to enter this into his equation of the cost of the lease. Under the U.K. tax system, with 100 per cent first year allow-

ances on capital expenditure, the ideal leasing situation is one in which the leasing company has plenty of spare money and taxable profits while the lessee is short of cash and has no profits (although hopes to earn them).

In these circumstances the tax allowance rich lessor can make his financial resources available while also gaining the benefits of allowances set off against his profits, as well as any grants. The lessee can gain the advantage of tax allowances reflected in the lower rentals he is expected to pay. The tax aspect seems to have been stressed recently due to the amount of capital cover which has disappeared along with profits.

Lorne Baring



The new DAF 56 ton truck.

ro/ro services being offered across the Mediterranean.

The TIR carnet, the internationally accepted customs document, has done much to simplify and therefore encourage longer haul journeys. Under a convention drawn up in Geneva in 1959 and subsequently ratified by most European countries, the international carriage of goods is facilitated merely by simplifying customs requirements.

Approved vehicles and containers are sealed after examination at the customs office of departure and need not be inspected again until customs at the final destination. The carnet also serves as a bond, guaranteed by the issuing organisation and thus exempting the operator from payment or deposit of duties which would otherwise be levied in transit countries.

## Documents

For journeys between EEC member States the TIR has been replaced by what is called the Community Transit System, which can serve both to identify goods entitled to reduced import duties and avoid the need for separate national transit procedures for each country.

Two classes of documents and procedures may be used under the Community system. The movement certificate can be employed where goods pass directly from the country of export to the importing nation, crossing only one internal frontier on the way. But the full transit procedure has to be used where more than one internal Community frontier has to be crossed or where goods are subject to control of their use or destination. This system is now available for journeys starting and ending within the EEC, Austria and Switzerland.

Proposals are now under consideration within the European Commission to simplify the system still further to remove some of the documentation and thereby help lower customs barriers.

One idea is that transit documentation for goods in free circulation after the transitional period should be abolished along with the transit advice note.

The possibility of establishing Community rules on sealing vehicles in order to ease movement within the EEC is also under consideration. Documents used for such transport could be standardised. The aim of all the proposed improvements is to speed up customs clearance and prevent costly delays to goods.

Arthur Smith

## International travel

LONG HAUL international freight journeys, particularly the overland run to the Middle East, have placed new demands upon the commercial vehicle manufacturers. Lorries have had to be redesigned to meet the extremes of temperature, and adverse road and travel conditions met on journeys which take days rather than hours.

The gruelling conditions imposed upon drivers have brought calls for refinements to the cab, many of which now offer the sort of facilities usually found in a holiday caravan. In addition to sleeping berths there is space for washing, and for cooking and storing food.

The Society of Motor Manufacturers and Traders points out that a whole new standard of heavy trucks has been developed for the Middle East run. "Well over 100 gallons of fuel, has to be carried because filling stations are few and far between. The springs have to be soft enough to give as reasonably comfortable a ride as possible over rough, steeply cambered tracks—and yet strong enough

not to break. There has to be plenty of room for emergency equipment such as snow chains and towing equipment. Tyres need to be extra heavy duty."

But the key to success in such markets rests largely upon the reliability of vehicles. Break-downs on remote routes will at best result in delay and in all probability theft and extensive damage. The sophisticated trucks now in use may cost upwards of £15,000 and this ignores the value of cargo which for the Middle East might be expensive capital equipment.

With so much money tied up in transporting ventures it is important that any delay is kept to the minimum. Speed, availability of spare parts and quick repairs will often swing the haulier in favour of a particular vehicle. Recognising this, most major European truck manufacturers have repair outposts as extensively as possible.

An undoubted handicap to vehicle manufacturers such as Seaspeed Ferries, pre-

pared to push in the limit the advantages which sea travel may have over land: a Felixstowe to Jeddah service offered by Seaspeed gives direct access to Saudi Arabia.

The popular overland route from the U.K. involves a short ferry passage to the Continent and then a road and/or rail journey across Europe to Turkey and beyond. The rapid growth of roll-on/roll-off traffic has been encouraged by the relaxation of traditional customs barriers and regulations throughout the EEC and EFTA.

## Reports

There have been reports that the early boom in journeys to the Middle East has eased off but there can be no doubt that this will remain an important long term trade for Western Europe. The Middle East is probably the fastest growing trade bloc in the world to-day and the lack of modern port facilities and consequent harbour congestion means that overland routes will be that much more important.

There is nevertheless keen competition from companies, such as Seaspeed Ferries, pre-

pared to push in the limit the advantages which sea travel may have over land: a Felixstowe to Jeddah service offered by Seaspeed gives direct access to Saudi Arabia.

The popular overland route from the U.K. involves a short ferry passage to the Continent and then a road and/or rail journey across Europe to Turkey and beyond. The rapid growth of roll-on/roll-off traffic has been encouraged by the relaxation of traditional customs barriers and regulations throughout the EEC and EFTA.

## Reports

There have been reports that the early boom in journeys to the Middle East has eased off but there can be no doubt that this will remain an important long term trade for Western Europe. The Middle East is probably the fastest growing trade bloc in the world to-day and the lack of modern port facilities and consequent harbour congestion means that overland routes will be that much more important.

There is nevertheless keen competition from companies, such as Seaspeed Ferries, pre-

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leading motor manufacturers such as British Leyland.

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## COMMERCIAL VEHICLES X

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# Bewildering variety at the heavy end

THE MOST important sector of the commercial vehicle industry embraces all the trucks in the 3.5 tons gross vehicle weight category and above. Numerically, these products account for only about one-third of the market, car-derived vans and small commercials like the Ford Transit covering the rest. But it is the heavier vehicles that generate the most turnover, and—at least in good times—the best profit margins. In addition, it is among the flagships in this sector, the really heavy articulated trucks designed for TIR long-distance haulage, that the main glamour and mystique of the industry lies.

Clearly, however, the heavy sector defined by this crude weight measure takes in a bewildering variety and range of products. At the bottom end it embraces the short-haul suburban delivery vehicles; in the middle it takes in medium-distance distribution truck and a variety of off-road and specialised construction work vehicles; while at the top end of the weight range it involves sophisticated articulated vehicles.

Each of these smaller segments of the 3.5 ton and over sector has suffered from the decline of the market during the last two years—a slump which has taken the 80,000 sales in the boom year of 1973 all the way down to and expected 57,000 this year. But some segments have suffered more than most, most notably the area taking in the prestige

articulated vehicles. These trucks (known confusingly as "tractors" in the industry because they operate, like agricultural tractors, through a drawbar) shot up to 17,000 sales a year in their peak period of 1973. From there registrations plummeted to 10,000 in 1975. They are expected to rise marginally this year to about 12,000 units, and in 1977 may well get back to 1973 levels.

Sales of three axle vehicles used for rugged tipper work have also been hit hard by the slump. Although these trucks account for only a small percentage of the total market—about 7 per cent. in an average year—registrations fell from a height of 5,800 in 1973 to only 3,500 last year.

## Climb

The area of business which has resisted the downturn most effectively is for two-axle urban distribution vehicles, which account for by far the largest number of sales in the truck market. Back in 1973 these vehicles ran up about 55,000 registrations, and although this figure slipped back to 40,000 in 1974, sales have stayed steady since then and appear to be beginning to climb once more. Some dealers believe that registrations of 56,000 to 57,000 could be possible in this sector next year, taking sales back to the 1973 level.

The great strength of this distribution vehicle sector is that it caters for more or less

essential services that are the very last to suffer during an industrial downturn. Food and clothing distribution remain necessary, along with all the other complex urban services, and although operators may delay replacing vehicles as much as possible, there will not be the same lay-up factor as in the long-distance heavy vehicles, or in construction equipment. Events like the recently announced cuts in the road-building programme have an immediate impact on sales of more specialised vehicles.

One of the most difficult factors to define in the heavy truck business is the impact of legislation. For example, one noticeable trend recently has been towards very lightweight rigid vehicles like the Leyland Octopus in preference to articulated vehicles.

This is a vehicle which has benefited from the protracted delay in introducing higher vehicle weights. For although the maximum allowable weight for rigid is 30 tons against 33 tons for articulated vehicles, a light-constructed truck like the Octopus can carry virtually the same payload of around 21 tons. It also has the advantage of having two fewer wheels, and has much improved stability, a big bonus in operating in the north of Britain during the winter. Leyland introduced the Octopus only a year ago and has had considerable success with it.

Where the legislative confusion is greatest, however, is in the heavy articulated sector. For several years now, operators have believed that it was only a question of time before the Government fell into line and hoisted maximum allowable weights to meet European standards. Although, as yet, there is no universal European agreement on this score, it is true that a heavy vehicle can operate nearly anywhere on the Continent at 38 tons gross vehicle weight; the big exception within the EEC is Britain, and in some countries vehicles can carry even heavier loads.

The problem this poses for the operator is to decide what type of vehicle he should buy. He could, on the one hand, opt for a premium-priced vehicle capable of carrying 38 tons in the hope that the weight restrictions will be raised soon enough for him to get some use out of it at the heavier weight. On the other hand, he could buy a cheaper 32-ton vehicle to conform to present regulations and risk the exposure to more uneconomic running costs if the weight limits are raised before it is worn out.

The dilemma is particularly acute for operators engaged in substantial work both within the U.K. and on international business. It is useful to have the extra weight for the Continental work, where the operator may be in a position to pick up loads at a higher limit. But this has to be balanced against the higher cost of operating a more expensive and heavier vehicle within Britain itself.

## Difficulty

The problem is equally pertinent for the British manufacturers. Like the operators, they are faced with dual requirements—designing vehicles which are both appropriate to home and overseas consumption. The difficulty is graphically illustrated by Ford's attempts to break into the heavy articulated goods market with its Transcontinental vehicle, a wholly new design launched last year.

Ford decided to make the Transcontinental in Amsterdam, mainly, it says, because it had available manufacturing facilities there. But there is also some indication that the manufacturing decision was governed by the even more important decision that the design should be aimed at a more general European weight range than the standards reigning in Britain. The result is that the Transcon-

tinental, a heavy vehicle, is by some European standards very heavy for internal British requirements.

Because of prevarication of heavier vehicle weights, Britain, the U.K. manufacturer, were slower off the mark in a sector of the market than the European competitors. It is in the past 18 months that they have begun to catch up with new models, and it is true to say that Continental manufacturers still have a slight edge. British Leyland, for instance, engineered its Marathon, its contender in this sector of the market, with ingenious balance of old and new and would clearly like to improve features such as a cab.

If the British Government were to give way and lift heavy vehicle weights to 38 tons, it would unquestionably help domestic manufacturers in their fight against the European competition. Given that the Government is injecting £360m. into Leyland Truck and Bus through the National Enterprise Board, it would seem natural that it would listen to the pleas of the industry. But the environmental doubts about heavy vehicles and the consequent demands on the road system remain, and the former Minister of Transport, Dr. John Gilbert, seemed firmly against tampering with the present system.

His successor, Mr. William Rodgers, may be persuaded to think again. Certainly, he will be coming under early pressure to do so. The industry, under the guidance of the Society of Motor Manufacturers and Traders, has already begun a new campaign to change the law and is pressing home its message that heavier trucks will mean bigger or noisier vehicles. The next 12 months could see interesting developments in the heavy vehicle industry.

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Address

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Brighton Road, Purley, Surrey.  
Telephone 01-888 4100.



The new Volkswagen LT.

# Wide spread of specialists

THE 70 or so companies exhibiting in the body work and trailer section at the Commercial Motor Show indicate the wide spread of specialisation even more than it does the potential for rationalisation in an industry that more than most has grown up through relatively small family units, and which, except for a handful, has tended to cater for local and regional requirements rather than for national and international markets.

There is a world of difference between the coach builder and the tanker specialist, between the builder of multi-wheel low loaders and container trailers. Of course, they have common interests in what the market is doing and this year are likely to be a good deal more cheerful than they have been for some time. In 1974 before the oil crisis had bitten deeply, the trailer market was estimated to be around 27,000 units and suppliers were still riding high. They crashed the following year to not many more than 7,000, but this year are beginning to get the air back in their tyres and looking towards the 20,000 mark.

## Cylinders

Among the early specialists were those providing refrigerated vehicles which help to keep meat in New Zealand to the local butcher, and refrigerated vans have become an integral part of food-transport, with gas cylinders beginning to take over from separate diesel engines to maintain temperatures. Delivery from the docks is most likely to be in the biggest possible vehicles with 40 feet trailers coupled to the tractor unit. Two or three smaller vans complete deliveries from a central depot. In the constant battle to save weight—and costs—some manufacturers are dispensing with a chassis, and while an insulated body is stiff, it requires high engineering skills to combine structural strength with the high thermal efficiency required.

Frame members can become heat conducting paths, and this year's show will demonstrate a British version of sandwich wall construction in which there are

no pillars, and which seeks to improve on, rather than just emulate, Continental practice. Nowadays the degree to which refrigeration, or insulation is needed depends on what is being carried: vegetables or fish require only chilling, and thus extend the sophistication of these special purpose vehicles.

As indicated, the trend where ever possible is to make trailer vehicles rather than trucks and to dispense with chassis in the interests of weight saving. With safety regulations becoming stricter and drivers much more aware of the need to obey them and also carry out common sense security precautions without, however, making the time spent on them irksome, there is a strong move in general goods carrying for the trailer to be a platform with a canopy around which stout sheeting can be drawn quickly. And where pallets are concerned some novel devices have appeared for anchoring them and for unloading at the sides by fork-truck as well as at the ends.

Since trailers are likely to be expected to have a life of anything from eight to fourteen years, manufacturers have to be aware of possible future legislation, especially that connected with weight. In most European countries lorries are allowed to gross 38 tons or more compared with 32 tons in the U.K., and since Continental journeys are increasing they are generally built to the higher specifications. The trucking industry, indeed, has been campaigning ever more strongly to be brought into line with the rest of Europe, and argues that the appearance of the lorry would not change but moving the same tonnage of goods would require 20 per cent. fewer of them. And because builders have also to take into consideration the time that drivers have to spend away from home—for instance, in serving the oil-rich markets of the Middle East—they have to pay increasing attention to sleeper cabs and the creature comforts they contain.

To ally a modern sleeper cab with a 40 ft trailer may well exceed the permitted length in this country of 15 metres, and is another example of the law lagging behind general European practice. The show is likely to include some quite exotic and very expensive cabs, one of which at least will be, it is claimed, the first standard aluminium cab from Motor Panels, the Coventry subsidiary of Rubery Owen which has been a pioneer in cab production.

## Builders

Among a wide range of other specialised vehicles are many different kinds of tankers carrying liquid gases, oil products, flour, sugar, cement and a host of other materials the carriage of which has increasingly demanded specialist knowledge and skills on the part of builders, who to a growing extent have become identified to particular areas of transport. Allied to many of these tankers are pump, filtration, suction and safety engineering devices and equipment again produced by specialist companies. There are obvious differences in techniques between transporting cement and liquid petroleum gas, and to specialists there is also a big difference in techniques for transporting different kinds of chemicals and other hazardous loads. There was a sharp reminder of the potential dangers only the other day when a petrol tanker overturned and exploded, devastating the centre of a village. The greater degree of safety in which such loads are carried depends vitally on the specialists—much less on legislation—and it is a mark of the way in which they are enhancing techniques that accidents like that are so isolated.

Specialisation has also long ago spread into another area, the off-the-road civil engineering and construction equipment, which just now is feeling the effects of the cutback in investment in road construction and building. Here the state of the art owes a great deal to the engine builders and hydraulic equipment makers whose products have to work in a hostile environment of mud and dust in conditions as varied as those to be found in the deserts of

CONTINUED ON NEXT PAGE



## COMMERCIAL VEHICLES XI

# Keeping an eye on the foreign models

THE LAST YEAR to 18 months has seen a period of product consolidation in the British truck market. This relatively placid phase follows the flurry of activity which produced new heavyweight vehicles from Ford, Bedford and Seddon Atkinson last year, a range which is now being filled out and adjusted as the trucks get some service history behind them. But at the same time there has been continuing activity from the importers in their attempts to break into what is reckoned to be the largest commercial vehicle market in Europe.

These incursions by the importers mark a notable change of emphasis away from the heavy end of the business. It is, of course, in the heavy sector that the most positive impact has been made by overseas manufacturers in recent years. But sales of large articulated vehicles have gone into a spiralling decline over the last two-and-a-half years, leaving many importers in severe financial trouble, and eager to supplement their ranges with other products. In this context, the fact that Britain is acknowledged to use more middle-weight vehicles than any country in the rest of Europe is clearly significant.

## Intriguing

One of the most intriguing of these new entries into the British market is the 14-ton Roman truck which is made in Romania under licence from MAN, the German company. In all basic essentials, the vehicle looks as though it could have been constructed in the German plant, but like many other East European products brought in to the West it has a significant price advantage over its Western equivalents. Indeed, the MAN concessionaires in the U.K. have decided to market this machine in preference to the German product precisely because of this price advantage; following sterling devaluation the German vehicle would have been hopelessly uneconomic, the concessionaires believe.

There is no doubt that the truck industry is watching the Roman experiment very closely. There is considerable anxiety that a growing number of sales in the future years could be siphoned off to cheaper priced competition from the Comecon

Mercedes is, however, another

company that has been gradu-

ally expanding its U.K. range.

Recently it has introduced its

16-ton version of its "new

generation" range — a vehicle

which uses basically the same

cab as its heavier counterpart —

and it has been placing more

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called Dusseldorf range of vans.

Flat, emerging on the Continent

as the major rival to Mercedes

pre-eminence, is also extending

its U.K. range with a new 16-ton

truck, a vehicle which, like the

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going up to the heaviest sector.

A similarly interesting

vehicle, at much the same

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new Savem model, which

derives from the Club of Four

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of the Club trucks—developed

jointly and now to be marketed

by Savem, DAF, Magirus Deutz

and Volvo—to make an appear-

ance in the U.K.

For all the companies in the

Club of Four experiment, the

Club vehicle marked an effort

to push into a lower weight

range than they had normally

had experience of manufactur-

ing. What the vehicle has done

is to take them right in the

heartland of the British manu-

facturers' strength, the medium-

weight products with which

Bedford, Leyland and Ford have

under-pinned their range both

in the U.K. and overseas.

So far the Club challenge has

been slow to get off the ground.

DAF, for example, has been

preoccupied with its recent

internal and financial troubles

that it has neglected develop-

ment work on the truck, and,

therefore, Savem, the French

manufacturer, is the first to

show how effective the challenge

will be. Its truck will come in

9, 11 and 13 ton variants, and

the company is aiming to sell it

as a premium price, high specifi-

cation product.

It will be interesting to see

how this marketing strategy

works, since the premium

product policy has not so far

been notably successful in the

U.K. Mercedes, for instance, has

had a hard struggle to establish

itself on these grounds, despite

its strength on the Continent

as a manufacturer that makes

durable, if high-priced

machines. The strides that

Mercedes has been making

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## COMMERCIAL VEHICLES XII

## Japan moves into the attack

THE EXTRAORDINARY growth they had risen to 834,000. Bus of the Japanese car industry sales overseas have risen from over the last decade has tended 517 to 17,000 over the same period. Overall, commercial almost equally buoyant growth vehicles accounted for about 32 per cent. of all Japanese automobiles exported in 1975.

The Japanese marketing strategy for commercial vehicles has followed closely on the lines laid down in the car industry. North America—and particularly the U.S.—has been selected for the major attack. But this is followed by strong sales in South-East Asia—what might be termed the Japanese sphere of influence—and by the Middle East and Africa.

The exporting record to the Middle East is particularly interesting, since it illustrates again how quick-footed the Japanese industry can be. Last year this was the area where the biggest increase in sales was registered, and it became the second most important individual market for Japanese commercial vehicle exports. The Japanese performance in the Middle East following the oil crisis has, of course, been equally dramatic in the car sector; but no European company except, perhaps, for Mercedes, has been able to match this extremely rapid switch of emphasis in commercial vehicle sales.

The main Japanese effort overseas has been with light-weight vehicles. These are the kind of car-derived vans, pick-ups and light trucks which many European motor companies have never sought to export seriously. But the Japanese have found a ready market for them in the U.S. in particular, and they have the advantage of being easily

## 1975 TRUCK AND BUS EXPORTS BY REGION

	Trucks	Buses
North America .....	213,539	—
Southeast Asia .....	180,503	6,323
Mideast .....	161,948	2,016
Africa .....	107,347	3,301
Oceania .....	53,717	1,633
Europe .....	45,409	85
Central America .....	35,008	2,121
South America .....	28,996	633
Others .....	1,153	43
Totals .....	537,673	16,654

## 1975 TRUCK EXPORTS BY COUNTRY

	Trucks
U.S. ....	203,047
Saudi Arabia .....	38,451
South Africa .....	61,802
Thailand .....	51,942
Indonesia .....	47,229

Indonesia was followed by Australia, Iran, Taiwan, the Republic of Korea, Greece, Kuwait, Libya, Canada and Venezuela in that order.

tagged on to the end of a car distributor's range since they need little specialist expertise to sell or service. Again, the Japanese pick-up has become an extremely good seller in the Middle East markets. For example, Datsun sold 33,000 pick-ups in Saudi Arabia in 1974, against 33,000 in the U.S. Another vehicle with which the Japanese have scored heavily is the Toyota Land-cruiser, a Land Rover-type vehicle which is now sold in almost as wide a variety of markets as the British Leyland vehicle. Because BL was, until a few months ago, on the Arab boycott list, it has had some

While the volume of Japanese sales overseas has been achieved by lightweight mass-produced vehicles produced to a good standard of reliability—a marketing approach which echoes that of the car industry—it would be wrong to suppose that the Japanese have neglected the heavier end of the industry. During the 1960s a system of road transport was developed in Japan which gave the country a series of so-called "high-speed mass cargo routes." For these kind of roads heavier vehicles with ten ton and over payloads were developed, while towns were seen as the province only for small vehicles of about a four ton payload.

Four major specialist truck manufacturers emerged to serve this expanding market for heavier vehicles, which, as in Europe, was leading towards specialised vehicles of all kinds. These were Isuzu, which produced 174,000 trucks last year, Mitsubishi (226,000), Hino (56,000), and Nissan Diesel (26,000). As production has gone up (Nissan Diesel, for instance, which is an associate of Nissan, the Datsun car company, made only 6,000 vehicles ten years ago), so exports have expanded. In 1974, exports accounted for 15,000 of Nissan's total heavy truck sales.

Overall, according to figures issued by the Japanese Automobile Manufacturers' Association, truck exports in 1974 amounted to 875,000 units. Of these, large trucks of more than three tons gross vehicle weight accounted for the by no means modest share of 152,000 vehicles, the rest being taken up by vans, small trucks and pick-ups. So the Japanese have clearly grafted an increasingly success-

ful heavy vehicle exporting arm on to the lightweight products. In Britain, this challenge in the heavier vehicle sector is currently being developed by Hino, which is in the process of establishing an assembly plant in the Republic of Ireland which will be used as a base within the Common Market from which to tackle the U.K. Hino has tried, exporting to Europe before, but those who remember the failure about four years ago also recall the way in which Japanese car exports built up from an equally unpromising start.

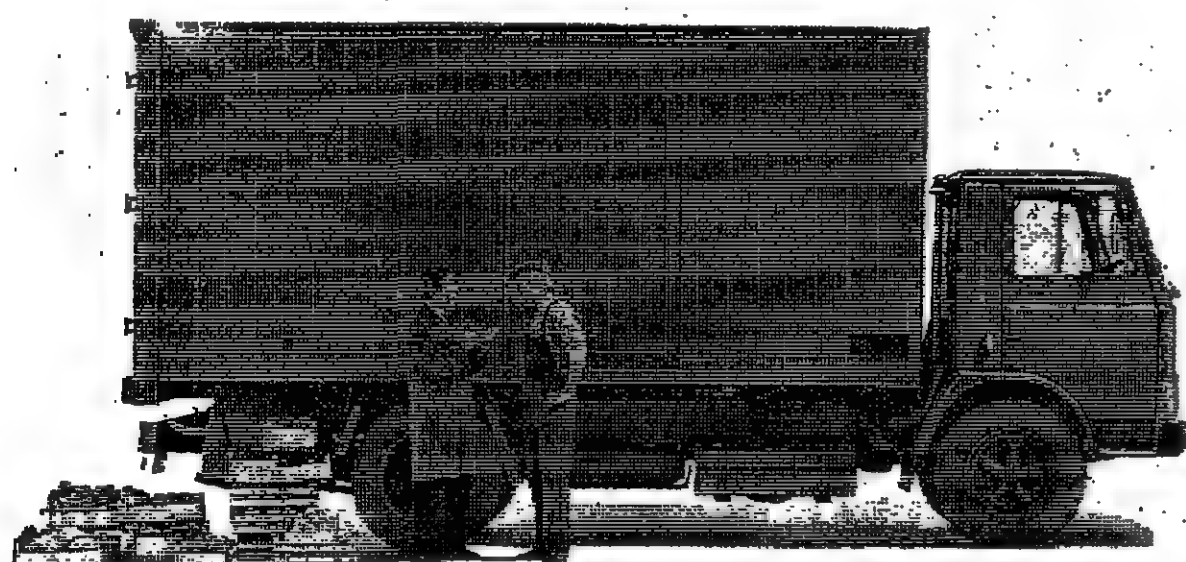
The Japanese effort in the U.K., also going on in the lighter weights, has, at least, been enough to set the alarm bells ringing once again. Too many people in the motor industry remember the way in which the first tentative efforts by Japanese car manufacturers were dismissed 10 years ago, only to be followed by the most effective sales drive ever launched by a group of foreign manufacturers in Britain. This time round, a firm watch is bound to be kept on the develop-

ment of the Japanese challenge: the question is, however, whether the British industry has the resources to beat it back. Certainly at the moment the Japanese seem to be tackling one of the weaker areas of the British industry in the market for lightweight vans and pick-ups. Although sales of Toyota and Mazda have gone down so far this year, this has been more than compensated by the rapid increase in Datsun's pick-up sales—which have reached 2,400 so far this year. And the Commercial Vehicle Show brings more evidence of other new challengers. Honda is launching a new small van. Toyota is to introduce a new Hi-Lux one-ton-plus pick-up, and it is also bringing in a new 9-cwt Corolla van for the first time, at a price of about £2,000. Following the furor about Japanese car imports, these vehicles are clearly a useful way of supplementing sales in a less sensitive sector of the market. What remains to be seen is how the British industry will respond to the challenge they represent.

T.D.

## JAPANESE TRUCK AND BUS PRODUCTION

	Trucks	Buses
1951 .....	30,317	4,06
1952 .....	29,960	4,10
1953 .....	36,147	4,54
1954 .....	49,852	5,79
1955 .....	43,857	4,30
1956 .....	72,938	8,00
1957 .....	126,820	7,30
1958 .....	130,066	7,50
1959 .....	177,485	8,70
1960 .....	308,020	8,30
1961 .....	553,390	10,00
1962 .....	710,716	11,20
1963 .....	867,781	12,50
1964 .....	1,109,142	13,80
1965 .....	1,160,090	15,00
1966 .....	1,387,858	16,30
1967 .....	1,743,368	17,60
1968 .....	1,991,407	18,90
1969 .....	2,021,591	19,20
1970 .....	2,063,883	20,50
1971 .....	2,058,320	21,80
1972 .....	2,238,340	23,10
1973 .....	2,570,816	24,40
1974 .....	2,574,179	25,70
1975 .....	2,337,632	26,10

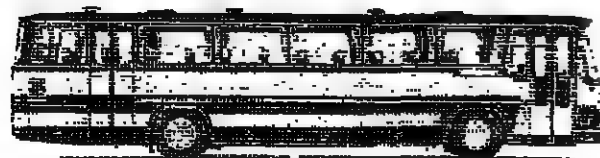


## Iveco. Trucks that never keep a grocer waiting.

A grocery store expecting a delivery. A factory waiting for spare parts. A bank clerk who has to get downtown on time. These and a thousand other needs are the world of industrial vehicles today.

It is a world of specialists. Because the most dependable way to do the job is different for every job.

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But we're not out to impress you with numbers. We prefer to impress you with a vehicle that's there when you need it.

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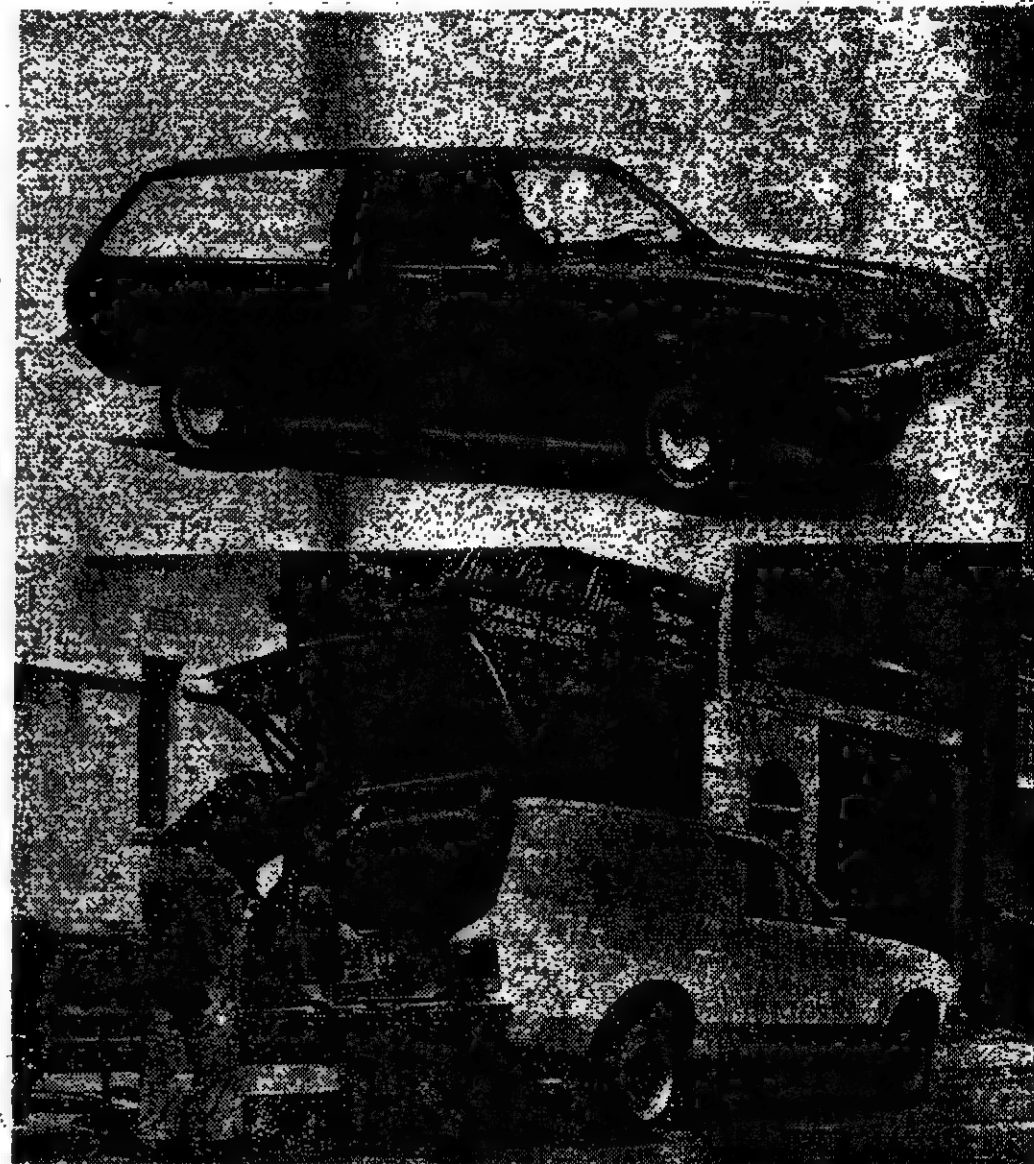


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Iveco. Experience takes on a new dimension.



Two views of Bedford's new Chevonne designed to beat off the challenge from Japan.

## Big plans in Eastern Europe

EASTERN EUROPE is quickly building a heavy-duty truck plant in Poland; and MAN has a contract with a Romanian company to produce a range of medium-weight vehicles which are identical to the MAN counter-parts at the same weight, but considerably cheaper. Other vehicle manufacturers stand to gain from similar deals in the future. Within the last month, for instance, General Motors has signed a deal in Bulgaria whereby its U.K. commercial vehicle subsidiary, Bedford, will supply vehicles to the Bulgarians in return for selling Bulgarian fork-lift trucks in Northern Europe. GM is also involved in another mooted venture in Poland, under which Bedford is expected to get a contract for supplying technology to the Poles for a new light truck in return for selling it in Western Europe. On the components side there is also increasing interchange between the two sides of Europe.

### Rate

The questions for the future concern the rate of growth in Eastern Europe, and the way in which the relationship with the West will develop. One problem with looking at growth rates is the way in which many Eastern European projects have failed to live up to their first hopes. The Soviet Union's Kama river project, for example, has taken much longer to get off the ground than was expected. According to some rumours, Kama came on stream severely short of target, and will take some time to reach its long-term aim of more than 120,000 units a year. Similarly Steyr-Daimler-Puch, the Austrian company, is in-

Nevertheless, while the Soviet car industry has taken a severe blow from the recent revision of its economic development plans, there is no doubt that the intention of maintaining the build-up of commercial vehicles remains. The same goes too for the rest of the Comecon bloc. These objectives have not been spelt out in precise terms. But, broadly speaking, it has been suggested that the aims of the individual East European nations are as follows:

1. The USSR is looking for an expansion of capacity from about 820,000 units a year at present to about 1.3m. in 1980 and 1.6m. in 1985. The Kama river project will bring about 120,000 trucks a year into production, and a deal with International Harvester is being planned to give an additional capacity of 150,000 diesel engines a year for top of the range vehicles.

2. Poland is believed to be planning an increase from about 85,000 units a year at present to 200,000 in 1980 and 250,000 in 1985. The country has a number of projects at the discussion or development stage, including the General Motors/Bedford deal which could provide another 100,000 vans a year. The Steyr-Daimler-Puch plant is designed to produce about 50,000 diesel engines a year.

3. Romania has a rather less ambitious plan, designed to take output from about 40,000 vehicles a year last year to 75,000 in 1980 and 100,000 in 1985. Much of the expansion will probably be in the MAN-based medium-weight truck designs.

4. The Yugoslavian industry is the Austrian company, is in-

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501015

## COMMERCIAL VEHICLES XIII

# Middle East a tough market

MIDDLE EAST has mixed fortunes for major manufacturers of commercial vehicles, but it is aware that the industry will eventually create enormous transport requirements and back up facilities.

However, the Middle East has been an easy market for commercial vehicles, as some companies have discovered to cost, and it appears to be a matter of careful judgment as to the desire to gain an foothold.

On the British point of view, the recent decision to remove Arab black list has been an important development. Arab countries had been an important market for the old motor Corporation, but its products were banned even better. However, statistical result of the merger with Leyland already boycotted Leyland markets in 1968. This exclusion has even more serious with enormous increase in oil prices and the Middle East's power. Now British is faced with a virtually market which it is keen to enter, but a certain degree of caution is required.

### Required

At present the company is conducting a survey of Arab countries, due to be completed about the end of the year, which will attempt to identify type of vehicles required in each country, possible times, what sort of back-up will be required and franchise arrangements.

Leyland is only too well aware of the dangers of entering a market without being fully prepared to meet both demand and overall back-up services. It is also painfully evident that the area is starting at a major advantage as far as foreign competition in the area is concerned, most notably from West Germany.

Perhaps the best indication of the potential of the area is British Leyland's figures for the area in 1974, also believed that U.K. price

and 1975, showing very strong growth in some sectors. Sales of commercial vehicles including Land Rovers for the two years were as follows — Bahrain 135, and 251; Egypt 24, and 816; Iran 3,527 and 6,158; Iraq 465 and 2,744; Jordan 107 and 811; Kuwait 45, and 93; Lebanon 564, and 325; Libya 960, and 1,317; Oman 726, and 2,201; Qatar 6, and 147; Saudi Arabia 20, and 53; Sudan 1,677, and 2,084; Syria 97, and 622; United Arab Emirates 1,134, and 1,510.

Of these, Iran, Iraq, Libya, Oman and Sudan emerge as the most dynamic markets from a British point of view and when Leyland's range of vehicles is offered in addition to those of other U.K. manufacturers such as Chrysler and Bedford, figures should look even better. However, statistical information about Middle East markets remains extremely patchy and more research is clearly needed.

So far the British performance in the Middle East has not been encouraging when compared to other European countries, or indeed with the Americans, who have captured a large section of the heavy vehicle market. Mercedes and MAN has managed to gain an early reputation in the area and continue to dominate many countries.

They have shown that there are tremendous opportunities, which are likely to increase in the future, but also illustrated the need for competent marketing. It is felt that road systems in these countries will develop very quickly, but the overall handling of vehicles and driver attitudes are regarded as problematic for manufacturers.

One field in which Britain has been particularly successful so far is specialist vehicles such as fire engines and refuse collection trucks, with several large contracts and follow-up orders. It is felt in some quarters that the U.K. should exploit this market further and use the foothold it provides to enter other types of vehicle. It is British Leyland's figures for the area in 1974, also believed that U.K. price

advantage is an important factor in the longer term. In the lighter range Japan, notably Nissan, has made big inroads into the area and Fiat is strong in some markets, with Germany almost unrivalled in the medium and medium-heavy range. Overall the growth in demand is expected to go roughly in line with the economic growth of each country and will continue strongly for the foreseeable future.

### Reputation

Britain has a good reputation as far as its products are concerned in most Middle East countries, but so far has been more hesitant than others in the field of investment there, perhaps because of the lower profits which often result.

In a broader context, the export of trucks has in the past played an extremely important role in the U.K. motor industry's development, particularly for Leyland, which has been particularly strong in Third World markets. This is attributed to the fact that, as a product, lorries are much closer to the capital goods industry than cars, which are in effect consumer durables.

In Britain Ford has played a decisive role in the build-up of the commercial vehicle industry, until very recently choosing Britain above others as the prime country for European production. But Ford remains on the Arab boycott list, unfortunately limiting its Middle East market. However, the boycott rules have been used quite flexibly by the Arab states, often with varying degrees of strictness depending on how much the goods are required. Banned companies have effectively been prevented from actively selling in these countries, but orders have nevertheless been placed.

For example, Arab states continued to buy British Leyland Land Rovers, the best selling vehicle in the area, mainly for military and security purposes. Similarly Iraq, in the summer of 1974, placed a large order for Leyland buses.

Ironically, in the aftermath of the Alexandria conference at which British Leyland was finally cleared from the boycott, the long mooted project to manufacture Land Rovers in Egypt has now been shelved. Nevertheless, its withdrawal from Israel was diplomatically achieved.

From 1969 Leyland had tried to disengage itself from its operations there largely because they were proving unprofitable, but came under strong pressure from the Anglo-Jewish community not to sell out. Early in 1973 it finally dissolved its equity interest in two Israeli plants. Recently, in obtaining removal from the black list, it won praise from the Anglo-Israeli Chamber of Commerce's Anti-Boycott committee for not backing out of an agreement to supply knocked down kits to Ashdod Automotive Industries.

There is a danger, however, that Britain's industry may be by-passed in the rush for the Middle East. For example, in Saudi Arabia General Motors of the U.S. has recently signed an important contract to build a truck plant, doing it directly through the parent company rather than the General Motors Bedford subsidiary.

It is also important to observe the methods of the U.S. companies which have been so successful in building up exports. Its presence is particularly strong in Iran, and of the individual companies Mack Trucks has perhaps been the most aggressive.

The evidence suggests then that the goodwill towards British products should be converted as soon as possible into concrete agreements, and British Leyland would do well to speed the delivery of its Middle East survey and act decisively on its recommendations if it is to catch up with foreign competitors in the years to come.

aiming at much the same level as the Romanian. Its capacity at the moment is for about 35,000 vehicles a year, and this will just about double by 1980 and expand again to about 80,000 vehicles a year by 1985. The Yugoslavian industry has development projects going with both Fiat, for lighter vehicles, and Mercedes-Benz for buses and heavier models.

5. Hungary is a less significant truck producer, but one of the major bus manufacturers in Comecon. Its Ikarus design is based on chassis from both Volvo and Steyr-Daimler-Puch. Total commercial vehicle production could rise to about 50,000 units a year by 1985 from about 20,000 to-day with buses accounting for about 15,000 units.

6. East Germany is scheduled to increase output from about 45,000 last year to 100,000 in 1985, thus remaining only a medium-size producer despite its importance within Comecon. So far the country has not developed any links with Western partners.

7. The Czechoslovakian industry is of a similar size, with almost identical expansion plans to East Germany, based mainly on the Tatra company. Relations with the West can be expected to grow increasingly close within the next five years, given that the Eastern Europeans seemed to be determined to buy Western technology to speed up the rate of development. Clearly EEC manufacturers are well placed geographically and technically, as well as in terms of historical links, to take advantage of this search for know-how.

What seems equally clear is that the opportunities for direct exports from the West will be severely limited, except in some highly specialised sectors such as trailers or one-off vehicles. For example, both Crane Fruehauf and York Trailers have been quite successful in selling really heavy duty units in East Europe.



The new model from Roman.

## Eastern Europe

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Overall, however, the demand for manufacturing knowledge and design skill, and thus the kind of deals which will be done term basis in Western Europe. The trouble with turnkey projects, as has been shown in the case of Fiat's deals with Russia, is that they involve long-term contracts—supplying the whole plant from top to bottom—became fashionable for a while in the car industry (Fiat's Togliatti plant for Russia being the classic example) this trade concept has had little following in the commercial vehicle industry.

The way in which deals are structured, however, does continue to give rise to argument and debate. General Motors, for example, which recently established a special department to deal with Eastern European trade, is said to insist that it will have a long term continuing relationship with a project.

This gives the company some potential for making profit over a long term, and also gives it a say in how it will be run. For example, as mentioned above, both the recent Bulgarian deal

is whether this development of production potential in the Eastern bloc will be turned against the West in terms of exports. The incursions which are beginning from companies like Roman are being watched with interest and some anxiety. And the message that Western manufacturers are already trying to make clear to their national Governments is that these vehicles from the East must not be allowed to undercut their own prices.

T.D.

# What yesterday's Sunday paper didn't tell you

To the general public we announced the setting up of SU/Butec, a major new automotive components organisation.

New because it has just happened, even though each of the six companies\* making up SU/Butec has been in business for years, supplying original equipment to leading motor manufacturers both in the UK and abroad.

What we didn't spell out is exactly what SU/Butec will offer you, the professionals in the motor industry.

Yet that is, in fact, the real news.

SU/Butec will be bigger than the sum of all its parts.

If you are an Original Equipment customer you will be able to come to just one address, at Thame, in the heart of England, to have one of the widest quality parts ranges available in Europe.

By parts we mean everything from heavy duty electrics to the smallest machined components. From starter motors to radiators to exhaust systems to alternators, to handbrakes to carburettors.

We mean parts not only for cars, but lorries, vans, buses even agricultural equipment.

If you are in parts retailing or you are a parts manager you will be interested to know that SU/Butec will have over 200 agents throughout the country able to supply SU/Butec products straight off the shelves.

And if you are running a garage you will find SU/Butec's new range of kits most useful to rationalise service parts numbers and make jobs like carburettor servicing speedier.

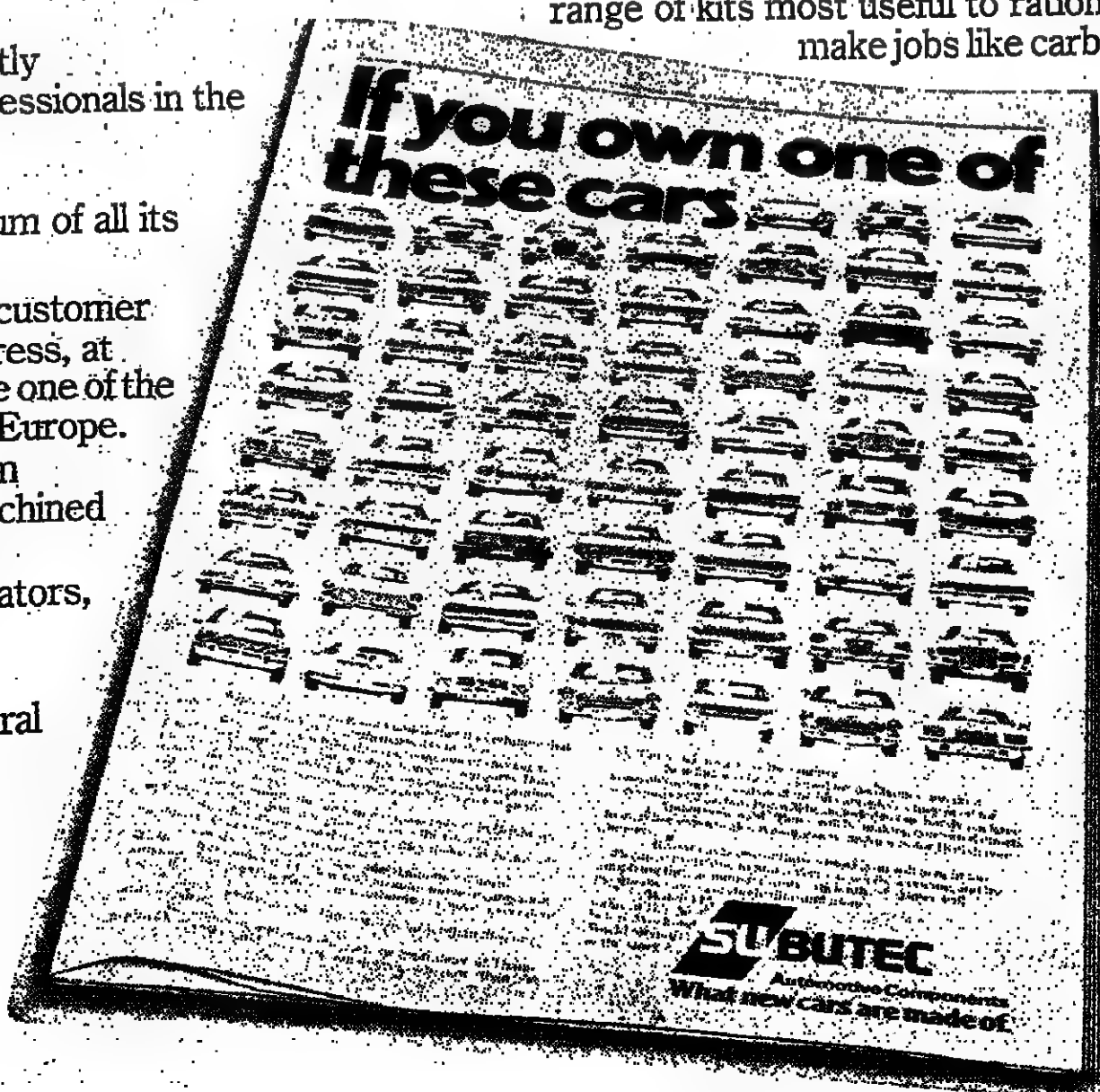
All this won't happen overnight, of course, but much effort is going into making it happen sooner rather than later.

So why don't you get in touch sooner rather than later?

Our telephone number is Thame (STD 084421) 4511 and our address is Dormer Road, Thame, Oxford OX9 3UB.

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\*Beams Engineering, Butec Electronics, Llanelli Radiators, Rearsby Components, Oxford Exhaust Systems and SU Fuel Systems.





## COMMERCIAL VEHICLES XIV

## Bus making: an industry in flux

SINCE 1968 the stability of the bus making industry has been affected by shortages of vehicles and spare parts. Leyland as the dominant firm, with a virtual monopoly of double-decker production since 1968, has been unable to keep pace with demand. Because of a fallen commensurably with the decline of Leyland's monopoly areas between 1970 and 1974 bus services, contract and private hire, in addition the volume of bus services provided has not been able to keep pace with demand. Because of a fallen commensurably with the decline of Leyland's monopoly areas between 1970 and 1974 bus services, contract and private hire, in addition the volume of bus services provided has not been able to keep pace with demand. Because of a fallen commensurably with the decline of Leyland's monopoly areas between 1970 and 1974 bus services, contract and private hire, in addition the volume of bus services provided has not been able to keep pace with demand.

U.K. BUS PRODUCTION		
	Double-decker	Single-decker
1960	2,222	7,842
1968	1,264	7,894
1970	1,673	10,584
1974	1,891	13,604

reflected total available capacity. Excess demand led to queues, rationing and price increases. Traditional suppliers unsure of the longevity of the excess demand were loath to instal new capacity. Indeed it was only in 1974, some three years after the Department of the Environment's announcement of the continuation of the grant scheme, now risen to 50 per cent, until at least 1980; that British Leyland found time to turn from its car troubles to proclaim a projected increase in capacity.

Although the extension of the grant scheme reduced the peak in demand, operators were guaranteed long-term help in buying vehicles, and manufacturers could anticipate a decade of strong demand. Another factor clouding the issue between 1968 and 1971 was the need by operators to catch up on replacement postponed because of the uncertainty engendered by the 1968 Transport Act. In essence, the grant scheme was a measure which, although intended well, disturbed market forces to such an extent that both the operator and bus maker were put under great pressure.

By attrition, merger and association the 15 or so companies making heavy duty buses in the early post-war period had by 1968 been reduced to just the British Leyland Motor Corporation. This, together with associate companies, was the only example of a true domestic monopolist in the motor industry. Although Bristol Commercial Vehicles had been owned by the State since 1948, by 1969 BLMC had increased the 25 per cent stake bought in 1965 to 50 per cent. In July, 1969 another joint venture with the National Bus Company was announced, involving the construction of the Leyland National plant to produce up to 2,000 standardised single-deckers a year. Therefore directly or indirectly, British Leyland dominated heavy duty bus chassis manufacture.

Competition had been lively and beneficial in the bus market, especially that between Leyland and Daimler in the

1960s, and in order to secure alternative supplies operators have always shown themselves willing to purchase from various companies, even at premium prices. The danger of monopoly and the readiness of operators to insure themselves against exploitation, led to several "new" entrants as early as 1968-70. Seddon, Ford and Bedford were the first time able to make significant inroads into the main markets for stage carriage vehicles, and the Anglo-Swedish Metro-Scania venture produced a brand new entrant.

## Initial

The initial boom in demand caused, mainly by the Grant Scheme had only slightly moderated by 1971. Continued excess demand grew to bizarre proportions. In 1973-75, after a loss of double-decker chassis production caused by the 1973 Gardner strike and disruption caused by the transfer of Fleetline production from Coventry to Leyland. The continued strong demand, the concern shown by the Passenger Transport Executives, the local authorities, the Scottish Bus Group and independents at the appearance of monopoly meant that during the period 1968-70 the market was ready to support a new source of supply, even at premium prices. However, it is clear that many of the new entrants have been attracted for different reasons.

Existing firms such as Seddon, Ford and Bedford, who traditionally made lighter bus chassis, together with Metro-Scania, were attracted into the market during 1968-70 by the excess demand existing for all types of stage carriages. The Metro-Scania and Dennis double-deckers were mainly a response to the huge shortfall of BL double-decked production in 1973, although Metro's plans had been well advanced. The Scottish Bus Group is on record as saying that it had tried to break the near-monopoly of British Leyland by encouraging other builders, Seddon for single-deckers and the Alexander-Alisa Volvo for double-deckers. (The latter can be used with other bodywork: the vehicle's design is strongly differentiated from other products by deliberately avoiding a rear engine.)

When it appeared that BL, first with the Leyland National and then with the B15 double-decker, was going to concentrate on integral vehicles, perhaps

leaving no work for independent bodybuilders, the latter took action. Metro-Cammell with the Metro-Scania and Alexander's involvement with Alisa-Volvo, are cases in point; in addition, the initiative for the Foden double-decker chassis came from Northern Counties, the Lancashire-based bodybuilder. Dennis's appears to be the most independent venture: plans indicate an intention to make a premium priced product in small numbers and already a Midland local authority has bought a pre-production batch.

In all instances the new entries are companies with a tradition of operation in the bus or heavy vehicle industry. The Alisa vehicle is 90 per cent British, only the Volvo engine being imported; the Metropolitan double-decker made by Metro-Cammell has a 70 per cent U.K. content; both ventures have relied heavily for their success on the know-how of an established bus body-builder.

Since 1968 when the way was opened to the one-man operation of double-deckers, the manufacturing side has attempted to find ways of forecasting and levelling out the cyclical nature of the revived demand for double-deckers. When BLMC was phasing-down Daimler, AEC and Guy bus production, it hoped to compensate with the Leyland National. However, the market moved against single-deckers and the latter's output has never approached productive capacity. As BL's capacity growth was not directed at meeting the increase in demand for double-deckers, new entrants were attracted by the excess of demand over supply. However, the signs are that BL will soon substantially increase its bus, including double-decker, production.

## Capacity

The nationalised firm's current double-decker bus-making capacity of 2,000 a year is likely to increase by over 25 per cent. The new B15, being of integral construction, is as much a body-building job as anything else, therefore its manufacture at two of BL's bodybuilding plants at Leeds and Park Royal would be sensible: especially considering Park Royal's experience in this field. In view of the DoE's estimate of a fall in bus usage, the limited net expansion appears prudent. BL's Truck and Bus operation forecasts a peak in demand of 3,000 double-

deckers in 1978, falling back to between 2,000 and 2,500 a year over the period 1977-90, but with a severe trough of 2,000 to 1,750 a year between 1981 and 1984.

If BL's capacity is increased to 2,500, although phasing-out some current models and turning the capacity over to truck or single-decker production could reduce this, and with a minimum contribution of 100 vehicles a year from Alisa, 150 from Metro-Scania and additional output from Foden and Dennis, BL is forecasting excess capacity between 1977 and 1987. Indeed by 1983 this could be as high as 1,000 units, although exports could halve it. In the short term BL might be aiming at supplying the trend level of demand, with the new entrants being left to cater for the margins of demand. The main danger of this is that the new entrants could build up considerable customer goodwill, and establish such a foothold that BL is left with less long-term business than anticipated.

The Bus Grant Scheme might be reduced in real terms after 1976-77, which although it might ease the adjustment needed when the scheme is gradually phased out in the 1980s, could place manufacturers in an invidious position: either people at the end of the queue will have to pay full prices or a system of rationing can be worked out with the operators. Such a position may induce operators and manufacturers to come closer together to co-ordinate needs and to avoid the troughs in demand, especially that predicted for the early 1980s: indeed, a gradual rather than a sudden phase-out of the bus grant could help here.

Additional potential new entrants exist, including a Bedford double-decker, the PTE's and London Transport: any manufacture by the latter groups is likely to be jointly undertaken with an existing bus maker.

Unlike the mass-producing car and CV industries, entry to the bus-making industry is not prohibitively expensive or difficult. However, new entrants could only become significant if BL lost a sizeable part of its market. This is unlikely in view of the customer loyalty the company enjoys: the large customers have considerable workshops geared to servicing BL products; large fleets of BL products; and a workforce well versed in handling them. To retain this goodwill BL must take account of the customers' needs and resist the temptation to act as a monopolist, by "We know best" or "Take or leave it" policy. To the extent new competitors, to BL competitive, would be a bad thing.

It must be remembered in the choice facing West European bus operators is potentially very wide, with more than 20 separate suppliers. Leyland's traditional strength has been in the bus and truck field which is reflected in its domestic and overseas business; the latter case rugged chassis for the Third World supply more sophisticated domestic models. As the car-making activities are not now appropriate all investment funds BL's strength on the track and bus side should be reinforced.

D. G. Rhy

MAJOR EUROPEAN BUS MAKERS (est. capacity)	
Daimler-Benz	10,000
Leyland	4,500
Iveco	5,000
Saviem-Berliet	3,000
Kassbohrer	1,250
Bedford	3,500
MAN	2,000
Ford	2,000
Volvo	2,000
Scania	2,000



This Leyland Atlantean bound for service with Baghdad Passenger Transport.

## The arrival of the hydrostatic bus

LONDONERS MAY soon be able to ride on a bus powered by a form of transmission which incorporates motors small enough to be integrated with the existing wheel and brake drum assembly and provides single pedal control for the driver. It is tempting to write "new" form, but hydrostatic transmission has been around for a good many years in a variety of experimental systems, and is being successfully applied to slower moving off-road vehicles like road rollers and dump trucks. It can take 30 years or more before a new power or propulsion system comes to the commercial starting line and hydrostatic drive in road transport is an exception, though it now looks here to stay.

## Concept

Fluid power has been used in components and control equipment for the aerospace, machine tool and other industries since shortly after World War II. Their increasing sophistication and use has led the concept into widening fields of application, most of them static or where they are not subjected to continuously changing demands as they are, for instance, in tractors or trucks, particularly in hilly or start-stop situations of heavy traffic or delivery.

Early attempts soon after the war to widen the use of hydrostatic power units and endow them with greater sophistication and, often, the simplicity of older engineering systems, necessarily made use of components designed for other purposes in industry. Components for hydrostatic units in new developments had first to be properly assessed before specifications could be drawn up, a lengthy process which is now, thankfully, behind the development. It has not been all that long, for instance, that it has been possible to match hydrostatic drive to a known machine performance.

In the early days, as recalled by Mr. Donald Firth, superintendent of the Special Products

Division of the National Engineering Laboratory in East Kilbride, Glasgow, which is undertaking the bus experiment with the Leyland Transport Executive: "Units were sometimes put together by the crudest labour—it was often confused with plumbing—and one needed a lot of faith to persist." As he adds, did many of the companies concerned with developments.

One of these was the Lucas Group which in the early 60s offered a hydrostatic package that was a straight replacement of gearbox and clutch and drove the wheels through the normal differential. A number of units were supplied to Aveling-Barford road rollers (part of British Motor Corporation, now British Leyland), Bonser fork trucks, Ford and Massey-Ferguson tractors.

While competitively priced to get the project off the ground, the units failed to attract the volume orders necessary to justify the price tag, and when prices had to be pitched realistically, the units priced themselves out of the market and were withdrawn—although, of course, Lucas remains strong in hydrostatic work.

Not unnaturally, too, in the earlier stages of development the hydrostatic units were less reliable than existing power units, so achieving reliability was a vital factor in bringing them to a pitch where they matched older power units. In the intervening years the hydrostatic unit has become more efficient, more reliable and more competitive. Indeed, because the system provides a large torque multiplication by reason of a small pump and big motor, the improvement in power to weight ratios has been outstanding.

As indicated, hydrostatic transmission basically involves a large amount of power going through a small amount of materials that necessarily have to be highly stressed and where lubrication is of critical importance. In the last decade particularly, the U.K. fluid power industry has made a valuable contribution in this direction and significantly

helped those closely concerned with vehicle developments.

The National Engineering Laboratory pursued a lot of its developments through dump trucks in collaboration with Aveling-Barford, part of Leyland's Special Products Division. Because the hydrostatic drives are located in the wheel hub motors—they at once set the designer free to construct an entirely new body of larger carrying capacity. The NEL will survive that much more easily in less testing conditions.

The project with Leyland Transport Executive is designed to reduce both fuel and maintenance costs. Maintenance costs are a significant proportion of total running costs, and this is especially so in hilly terrain because of the increased loadings on mechanical transmission and brakes. Before the end of the year it is planned like the ability to freewheel, to incorporate regenerative torque and power requirements recover the substantial amount from a small number of standard components, and to match the transmission to its work. It is hoped to recover a large part of the cost of this energy, with resulting

Steady development enabled the

to report that a direct drive, slow-speed hydraulic motor of the multi-lobe ball piston type could have advantages in size, simplicity and cost.

The choice of a bus in which hydrostatic drive is bold, challenging and quite logical, for it succeeds in a hostile environment where extreme demands are commonplace, it carrying capacity. The NEL will survive that much more easily in less testing conditions.

Continued on next page

A matter of course.

Ticket issuing machines, by Almex, of course.

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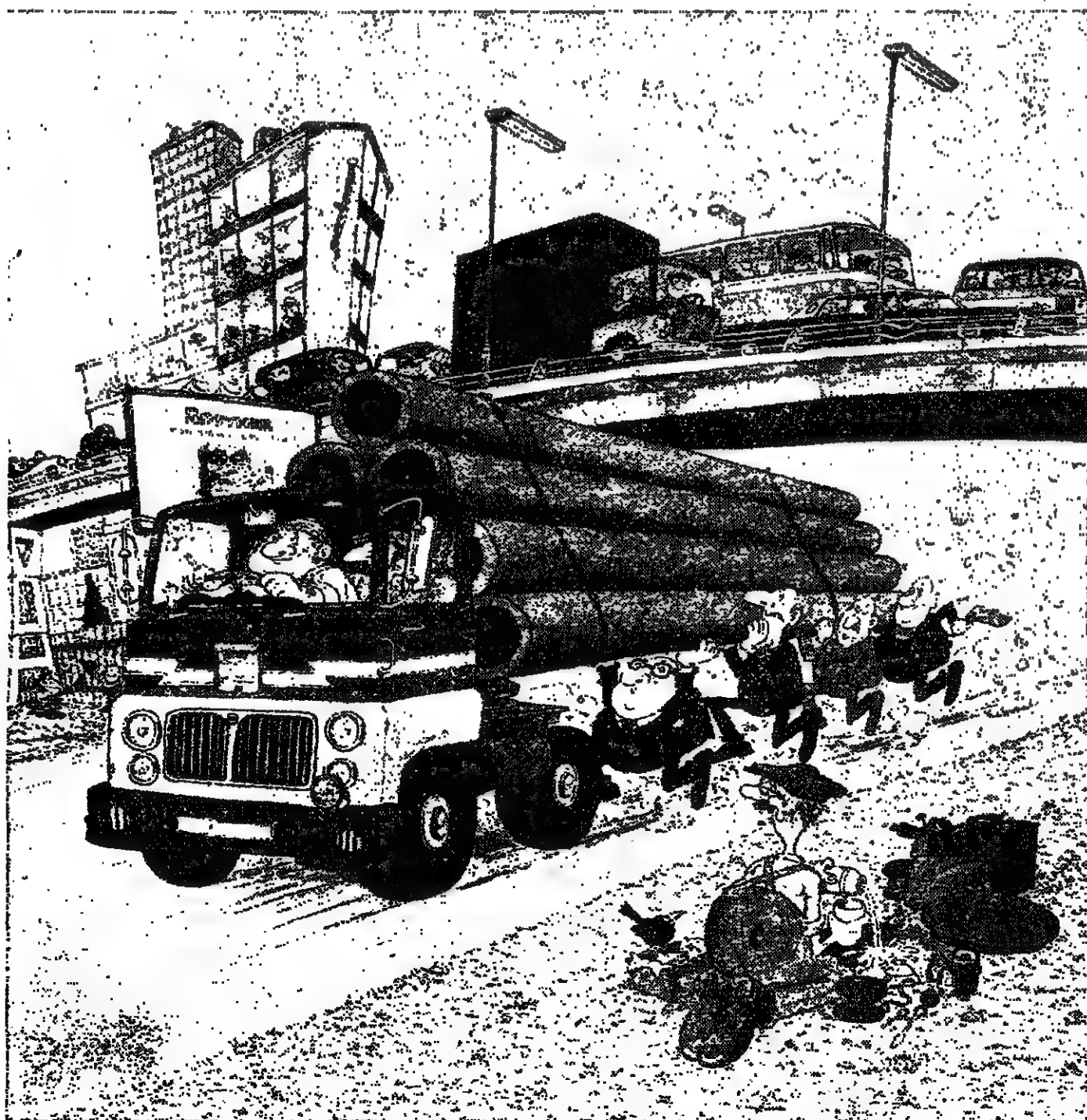
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## COMMERCIAL VEHICLES XV

# U.K. trailers now a major force

U.K. trailer industry has development work to bear on the truck tractive units, tend to be made for a different life expectancy and replacement cycle. Because of these divergences of approach the two industries have grown up at arms length from each other.

## Simplicity

Nevertheless, despite the relative simplicity of trailer manufacturing, technical sophistication has undoubtedly been a plus point for the British producers in several overseas markets. For example, a large proportion of exports to the Middle East and Nigeria are sold for use in the oil industry, demanding specialist heavy-duty trailers to carry oil rig equipment, and low loaders to transport construction equipment between building sites. Eastern Europe also tends to concentrate its buying on more technically advanced products, sometimes made on a one-off basis, for transporting heavy plant to its developing regions.

Another, more bizarre example, is Crane Fruehauf's contract with Hungarocamion, the Hungarian State trucking concern, for refrigerated vehicles to transport meat products down to the Middle East. To hang onto these markets it will be necessary to maintain technical excellence. The main efforts towards achieving this today are going in the dual directions of weight reduction and better fuel economy—lighter construction because it allows heavier loads within the legal maximum, and fuel saving because operators are increasingly seeing this as a major factor in their buying policies.

## Substantial

Weight saving has led to the decline of steel trailer bodies and much wider use of aluminium and glass-reinforced plastics on plywood for trailer construction. In the box van type of construction—the enclosed four-sided trailer which has become increasingly popular—aluminium's lightness has become particularly important. It can be riveted together from

large sheets, is a more rigid and lighter material than steel, and is ideal for the "monocoque" construction method which does not utilise a chassis.

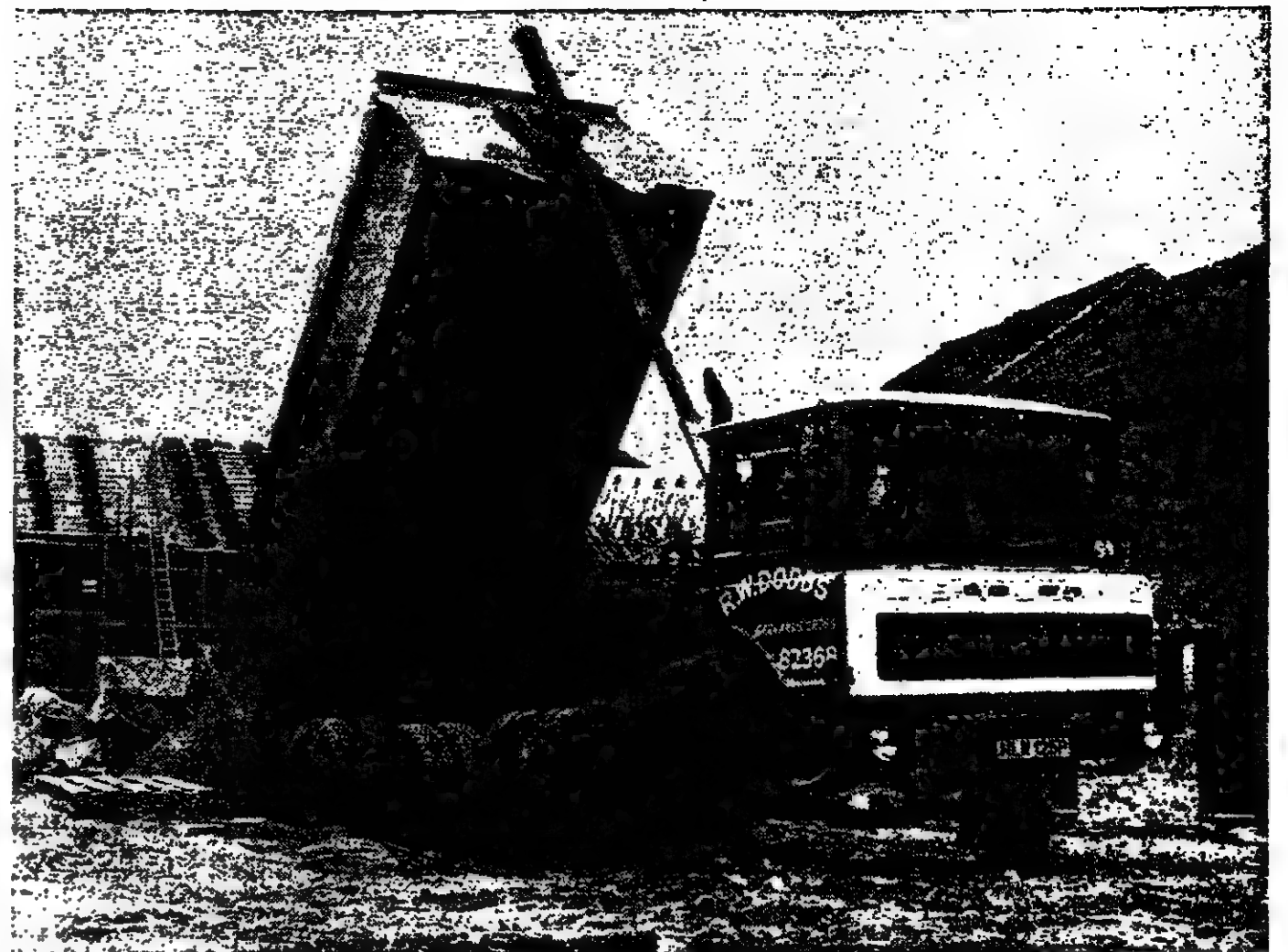
Weight reductions are, of course, a useful element in the struggle to achieve greater fuel economy—there is an almost direct correlation between weight and miles per gallon. But several new ideas are now being introduced to heavy trucks in an attempt to cut down both road and wind resistance.

Road drag, for example, is being tackled by York Trailers with a device called a Hobo, a system which hoists up one of the rear trailer axles in certain conditions so that its wheels do not touch the ground. The notion behind the Hobo is that most trucks run only part-loaded much of the time, and entirely unloaded some of the time. According to York's research, heavy trucks are fully loaded only 55 per cent of the time, and on many trips they are light enough not to need the two rear axles.

York has also introduced an aeroflot system which fits to the front end of the large box trailers and rounds off the corners. Coachwork Conversions has developed a similar system of curved extrusions which fit around the sharp right angles of a laminate box van to give it a more aerodynamic profile.

These are only examples of the profusion of ideas now being worked on to develop lighter trailers without sacrificing strength. Bodies are getting thinner, chassis are being phased out, and aluminium and glass-reinforced plastic are establishing themselves as the firm favourites of bodybuilders. At the same time there is continuous development aimed at making trailers easier to load and unload. Although the product may look simple in itself, a great deal of ingenuity is being employed to make it better and more reliable on the road.

T.D.



A tipper version of the Leyland Bison.

## Hydrostatic bus

CONTINUED FROM PREVIOUS PAGE

economies in fuel consumption, brake maintenance and a reduction in pollution.

A regenerative braking system is particularly attractive for vehicles frequently starting and stopping, like milk floats, delivery vans, taxis and fork lift trucks. A typical driving cycle for a city bus shows that around 20 per cent of the time is spent in braking, which invariably occurs without changing through the gears, and occasional braking peaks of up to 0.25g can be expected. NEL estimates it ought to be possible to make available for recovery about 60 per cent of the energy from the engine, with a reduction of around 40 per cent in fuel consumption and an improvement in brake assembly that includes the originally

benefit is that the starter motor can be eliminated and the vehicle taken out of the garage with engine at rest to reduce pollution and noise.

The bus, a Daimler Fleetline, has already been fitted with a hydrostatic transmission powered by a conventional 180 hp diesel engine incorporating a unique NEL design of hydrostatic motor small enough to be integrated with the existing wheel and brake drum assembly. While these motors are particularly suitable for vehicles with independent suspension, in the present exercise pension has been retained. The NEL licence, Carron Hydraulics, a Scottish company associated with developments which was taken over some two

280 lb lighter than the rear axle, a sizeable saving that, for example, in a goods vehicle could be used to increase the carrying capacity.

Central An automatic electro-hydraulic control system is used which maintains a constant load torque on the engine and coinciding with the optimum fuel consumption characteristics of the engine. As a result the driver has only a throttle control to operate. All the components used in the hydrostatic transmission will be marketed in the near future by the NEL licence, Carron Hydraulics, a Scottish company associated with developments which was taken over some two

years ago by Rexroth, of Germany, one of the biggest hydraulic manufacturers in Europe. Field trials to date with the hydrostatic bus indicate that acceleration and top speed are comparable with the mechanical transmission, and while no quantitative measurements have yet been taken of general noise levels, they appear perfectly acceptable.

These trials will be followed by a similar project for the Scottish bus group. Among other transport executives that have shown a lively interest in developments are the West Midlands and Yorkshire. Indeed, potential users have shown in general more interest than have bus and truck makers.

P.C.

# Ride the Rockwell line.

## Rockwell axles and brakes are the best for trucks and buses.

They are all manufactured in Europe and specified by major European manufacturers. Rockwell axles and other drive train components are also used in off-road construction, mining, material handling, forest and farm operations. Rockwell products have been adapted to and already cases—especially designed for European applications where legislation, axle loads, and export requirements are different from those in the United States.

## You will be in good company with Rockwell components.

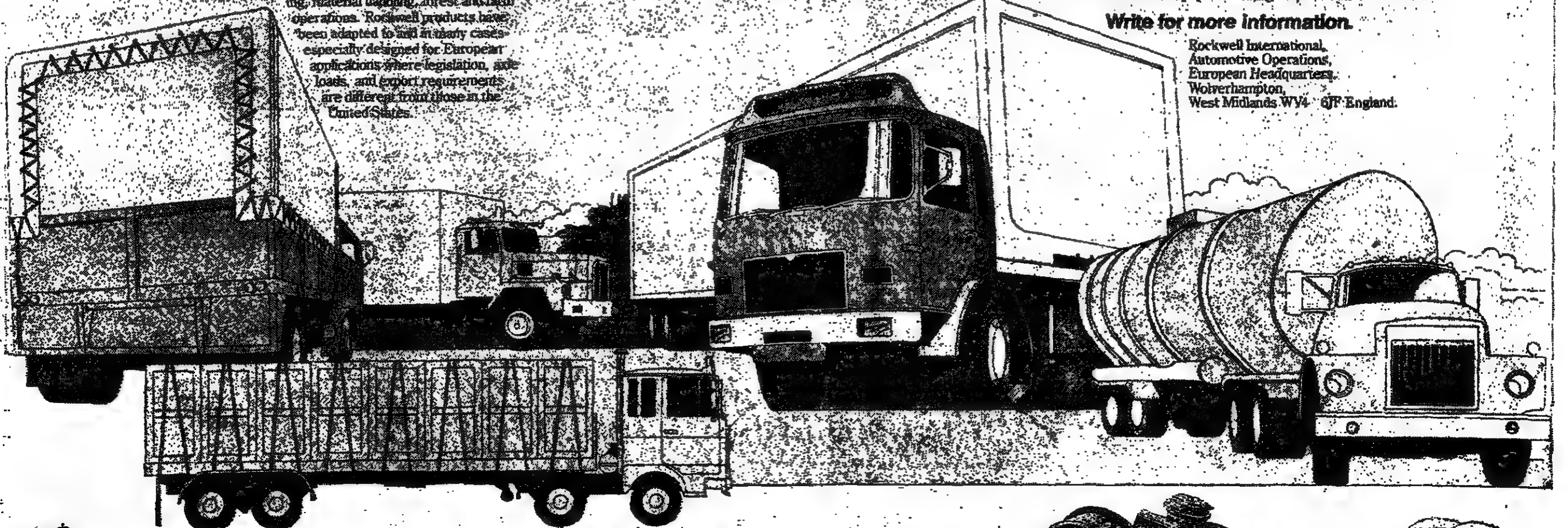
Half of all American heavy-duty trucks and tractors are equipped with Rockwell axles, and seven out of ten American heavy-duty highway units are equipped with our brakes. In fact, we're the largest supplier of axle and chassis components for heavy-duty trucks.

## Lower operating costs and higher profits.

We design and build our components to work together as a system, of by themselves, to provide maximum performance. The result is a line of quality-engineered, precision-manufactured drive train components. They have fewer parts for more reliable service, longer operating life and simpler, low-cost maintenance. Their low weight means more payload and higher profits for fleet owners.

## Write for more information.

Rockwell International,  
Automotive Operations,  
European Headquarters,  
Wolverhampton,  
West Midlands WV4 6JP England.



### Front axles

Rockwell front axles are built strong with sealed knuckle pins and permanently lubricated tie rod ends that give long life and greatly reduced maintenance. Rockwell brakes and aluminium hubs save weight and increase operator payloads.

### Single drive axles

Rockwell single reduction design offers fleet owners simplified, easier to service, lighter weight, high payload axles with rugged hot forged rectangular housing. A wide choice of hypoid gear ratios is available for every operating condition. Now also available in 6800-kg (15,000-lb.) and 8380-kg (18,500-lb.) two-speed designs.

### Tandem drive axles

Our tandem drive axles give the same Rockwell advantages as our single drive axles, plus higher load capacities. Our new SQBP® is the first tandem designed for up to 800,000 kilometers without major service.

### Universal joints

The new 17N X-Tra Life® joints extend lubrication intervals to 80,000 kilometers in average highway service. We can offer a full line of joints and slip assemblies, conventional and wing bushing types.

### Brakes

Our lightweight Stopmaster® II twin wedge brake has automatic adjustment and our Cam-Master® unit-mounted brake is available with our new automatic slack adjuster. Both of these brakes are available in sizes to meet all operating conditions and new European legislation.

### European manufacturing plants

We have manufacturing plants in England, France, Germany and Italy where we also make side members and frame assemblies, black and fully machined axle housings, transfer cases, front drive steer axles and window regulators.

Visit our stand No. 230 (Gallery) at London Commercial Show



Rockwell International

...where science gets down to business



## ADVERTISEMENT

## DAF TRUCKS LOOKING TO THE FUTURE

## Transport is indispensable in our modern society, that's a fact.

To cater for the demands of hauliers throughout Britain, there are almost 20 truck manufacturers. Most of the manufacturers are in a position to supply good vehicles. Additionally, most can provide the operator with some form of back-up service once the truck is in operation. The amount and quality of this service however does vary from manufacturer to manufacturer.

It is therefore apparent that operators must take a good long look at all the available options before committing a large capital investment with any one of the available manufacturers.

Increased funding is allocated every day of the year to further the transportation of our goods. Unless the operator can be guaranteed a complete after sales back-up service, and the highest specification truck, his fleet can become a huge liability.

One manufacturer taking a leading role in this respect is DAF Trucks. A household name in their home market, Holland, where they have over 45% of the available market, DAF Trucks (G.B.) Ltd. have now been in the U.K. for almost four years.

In this short space of time, the Company have put over 2,500 trucks into operation and established themselves as the number two Importer. No mean feat by anybody's standards.

The DAF Trucks philosophy is simple, yet effective. They consider themselves small enough to be completely flexible while maintaining their individuality and their product quality. On the other hand they are large enough to design, develop and manufacture their own components such as engines, axles, cabs, etc. As David Mansell, Managing Director of DAF Trucks (G.B.) Ltd., says:



D. W. Mansell - M.D. DAF Trucks (G.B.) Ltd. "Looking to the future".

"We have to be good to survive, we don't have anything else to fall back on."

Developments within the transportation industry indicate that more and more importance is being placed on the "heavy" end of the tractor market. It is predicted that by 1980, tractors in the 16 tonnes or more category will account for 55% on total.

Realising this trend, DAF Trucks have already taken steps to ensure that their range remains the most comprehensive available. A new tractor unit, the FT 2300 DHU has been developed and makes its international debut at the Earls Court Commercial Vehicle Show, 24th September - 2nd October. Available as a full production model in the U.K. early in 1977, the new DAF Trucks "2500" is the result of extensive research and analysis of the total E.E.C. truck market. Designed to anticipate future European-wide legislation, it embodies all the features of quality, reliability, and design foresight expected with vehicles from one of Europe's leading manufacturers.

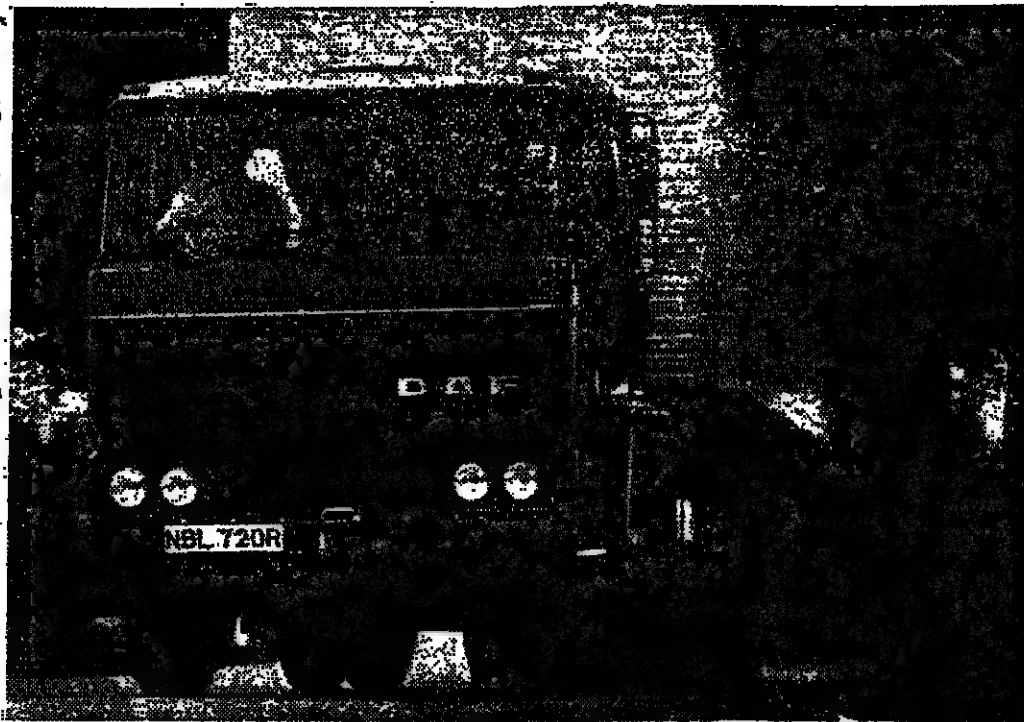
It is no accident that DAF Trucks are launching their new tractor unit at this point in time. In-depth studies have revealed the increasingly important part which is to be played by the road transport industry in the total European transport market.

Manufacturers cannot afford to rest on their laurels. On the contrary, if the best possible performance is to be obtained from the European Commercial vehicle fleets, vehicle ranges will have to be adapted continually to meet new developments.

There can be no doubt that DAF Trucks have done their homework to perfection. They have defined the market and its problems. They have analysed and defined the answer to these problems, and finally, they have produced a high specification truck which ideally complements the existing comprehensive range of vehicles.

Now, at last, own account operators and professional hauliers everywhere can confidently rationalise their fleet requirements based on DAF Trucks philosophy of matching supply to meet demand.

The DAF Trucks range of vehicles for the U.K. market has been carefully selected, providing the comprehensive network of dealers with a range of models from a 14.5 ton four wheeler up to a 56 ton tractor unit.



The new FT 2300 DHU from DAF Trucks.

## Top Trucks deserve top back-up facilities.

The best possible truck cannot be a profitable tool unless the number of days of downtime for repairs and maintenance are kept to an absolute minimum.

For a number of years, DAF Trucks have analysed the life of numerous trucks, resulting in a maintenance and repair system tailor-made to meet specific transport problems. The benefits to the operator are obvious - annual maintenance and repair costs can now be budgeted far more accurately. Additionally, DAF Trucks have initiated a maintenance and repair contract, whereby they assume responsibility for maintaining the operator's truck at fixed intervals over a period of up to four years.

Repairs are then carried out as required, although these are kept to an absolute minimum, thanks to the regular maintenance of the trucks.

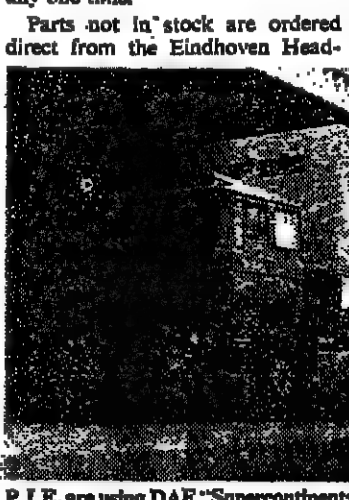
What happens though when a truck breaks down in the early hours of the morning, or in some far flung corner of the country miles from anywhere. Well DAF Trucks have taken care of this too.

Throughout the U.K., DAF Trucks provide a 24 hour emergency breakdown service - DAFaid. All the driver has to do in the event of a breakdown or accident is phone one central number and report his situation. DAFaid then takes over. Arrangements are made immediately to have the truck either fixed at the roadside, or towed to the nearest workshop if major repairs are necessary. Either way, the driver

can be confident that his truck will be back on the road in the shortest possible time. On a similar basis, an emergency breakdown service is provided throughout Europe and the Middle East is provided. Manned night and day, the "International Truck Service" as it is termed, or I.T.S. for short, is every operator's assurance that his truck will be kept on the move through some of the toughest routes in the world.

DAF Trucks realisation of how vital it is for truck parts to be immediately available is very clear. A high volume of stock is held in the Meadow Park Department, and, as a rule, parts can be supplied direct from stock. The rationalisation of parts throughout the DAF Trucks range greatly reduces stock holding problems, but even so, eleven thousand lines are held in stock at any one time.

Parts not in stock are ordered direct from the Eindhoven Head-Office. DAF Trucks are certainly putting this into practice.



P.J.E. are using DAF "Supercontinentals" on long haul trucking between the U.K./Middle East. The DAF Trucks back-up service en-route to the Middle East was one of the key factors in the buying decision.

## COST OF OPERATION - it's influence on the industry.

A truck manufacturer's responsibilities extend much further than just providing operators with high performance trucks. Some effort must be made to identify, and then reduce the overall "cost of operation".

This "cost of operation" is something which affects not only the haulier, but every man, woman and child in the country.

In recent years, a staggeringly high figure of 85% of our total goods has been transported by road. This underlines the importance of the role being played by the road transport industry. It also shows quite clearly that unless costs are controlled, and indeed, kept down to the operating minimum, we will all be affected. Inflation is already at an unacceptable level, if transportation costs are not controlled, the price of our food, clothing and other items which we tend to take for granted, will undoubtedly continue to rise.

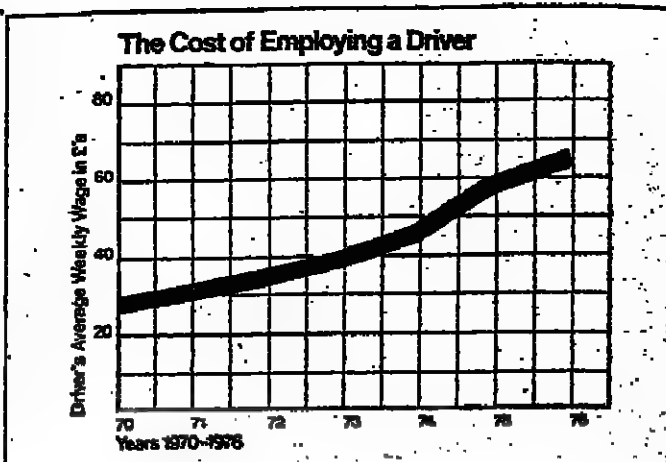
Fortunately, DAF Trucks have taken positive steps, not just to maintain existing operating costs, but in the majority of cases, to actually cut costs.

Over a period of some ten years, the Company have carried out a very detailed analysis of truck operating costs. These costs have been broken down into specific areas and identified as either "fixed" or "variable". It is a fact that there is no escape from these operating costs. However, DAF Trucks have proved that whilst you can't remove the costs entirely, they can be controlled and minimised.

The analysis of operational costs is all-embracing and covers interest and depreciation, tax and insurance, driver costs, fuel costs, tyres, repairs and maintenance and, of course, overheads.

In each area of concern, DAF Trucks have rationalised the problem to the point where, irrespective of the type of operation being carried out, a solution can be supplied that is right.

As an example of just one of these areas of concern, we can look at one of the "variables", the cost of fuel. It's always difficult to look into the future. One thing we can be sure of, however, is that fuel prices will continue to rise. DAF Trucks, have, therefore, designed and manufactured a range of turbo-charged engines which really do have a small "thirst". Independently conducted

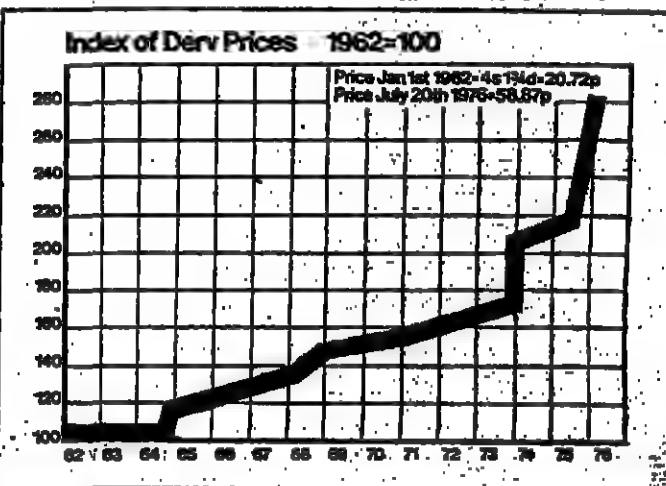


road tests have proved that DAF miles. If that figure is then multiplied by the number of vehicles in the fleet, the overall saving becomes very apparent!

Indeed, one independently run road test involving eleven top European trucks, proved that the DAF Trucks engine gave a 16% better fuel economy than others in the same test.

**"The purchase price of a vehicle is no longer the sole or decisive consideration for an operator."**

Converting that into hard cash terms, it represents a saving of £900 per annum for a 32 ton articulated operation at an average 75,000 reduced to the least imaginable amount.



## DAF Trucks

**Proven economy for today's world**  
DAF Trucks

## The driving power in reducing the world's transportation costs!

Economic prosperity depends increasingly on moving goods over long distances. DAF Trucks recognise this fact and have taken steps to ensure a transport policy, based on the 'cost of operation', which provides an efficient system, in terms of operational cost control. Of the total goods moved in recent years, approximately 85% went by road. That's how important it is that somebody makes a positive step to reduce costs. Costs which ultimately affect us all.

DAF Trucks have taken such a step which many International Companies are already using to their benefit.

## The DAF Trucks Organisation

The DAF Trucks manufacturing plant based in Holland is geared to produce trucks - nothing else. The factory is probably the finest in Europe with an output of 12,000 trucks per year. Every part of a DAF truck is manufactured and assembled at the factory (excluding the gearbox) by skilled craftsmen who are dedicated to producing the best truck money can buy. Because only trucks are manufactured there is nothing else to fall back on, and that's the operators guarantee... quality and reliability.

## The Cost of Operation

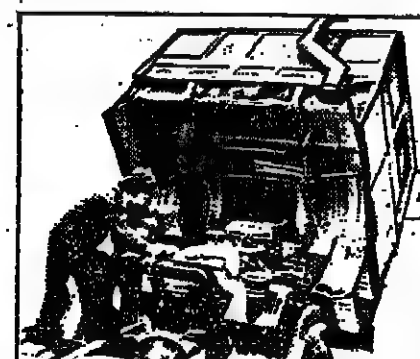
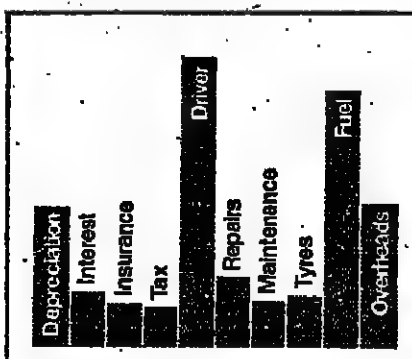
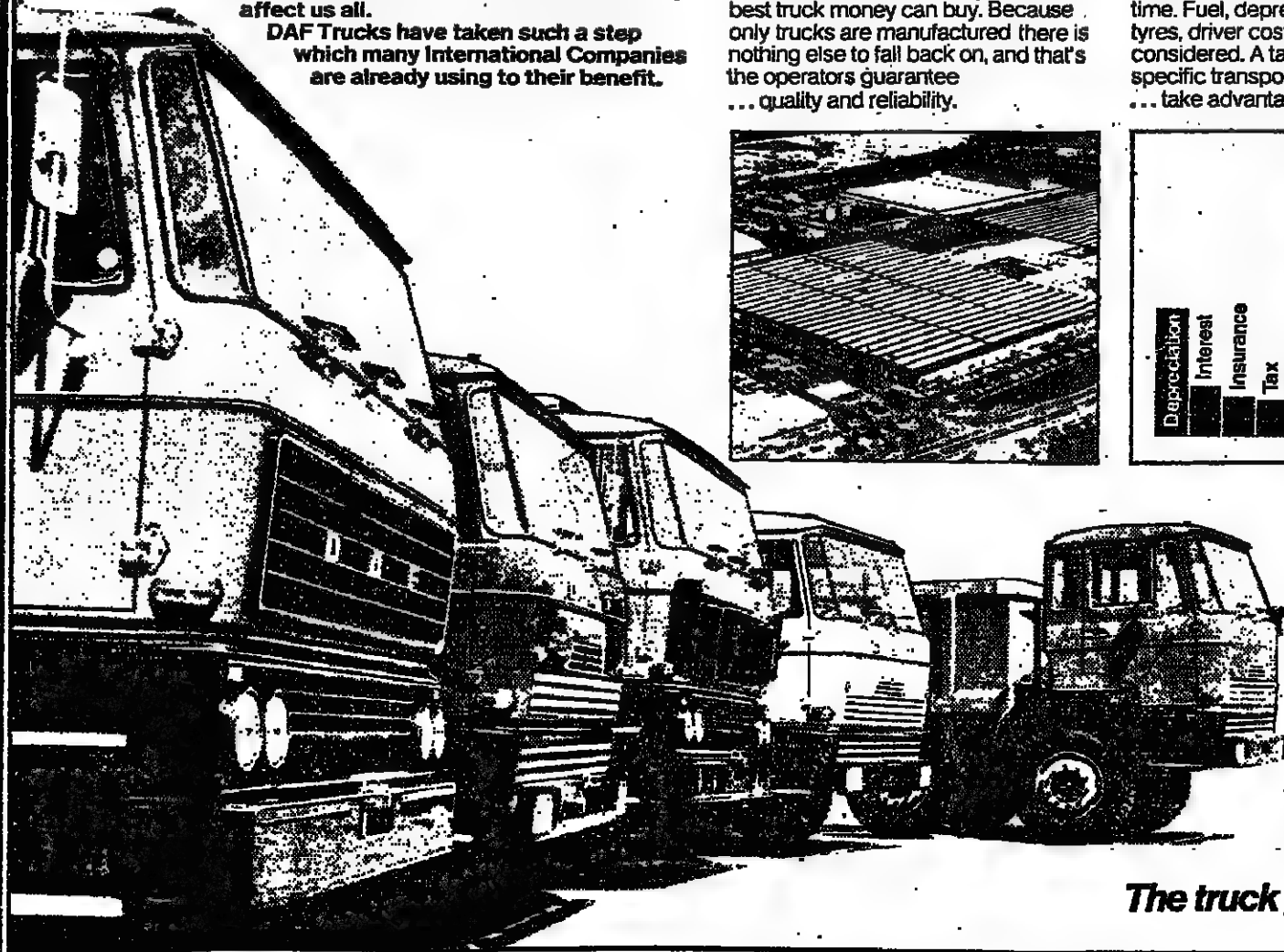
A well planned purchasing policy could have a considerable effect on your profits for the year. DAF Trucks have analysed the total 'cost of operation' and can positively influence both fixed and variable costs - no matter what the size of company or its operational requirements. Now you can be sure that the right specification truck is chosen every time. Fuel, depreciation, maintenance, tyres, driver costs etc. have been considered. A tailor-made solution to specific transport problems is available... take advantage.

## The International Truck Service

A product's quality can be measured by the quality of the organisation behind it. DAF Trucks believe that a truck cannot be profitable unless downtime is kept to the absolute minimum. A sophisticated analysis of 'truck life' has resulted in maintenance and repair schedules to suit every type of operation. But even this is not enough - a network of service centres throughout the UK, Europe and the Middle East, provides the ultimate in international service organisations keeping DAF Trucks on the move... always.

## The Range

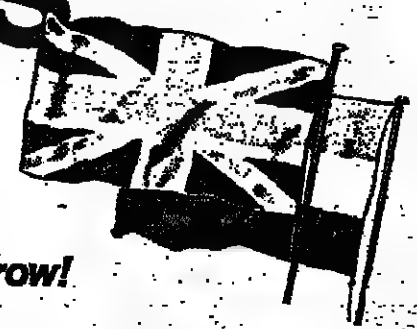
To ensure that every operator has the opportunity to maximise his or her fleet potential and thereby reduce overall transportation costs, DAF Trucks manufacture the most comprehensive range of trucks available, tractors, tipper and mixers, all engineered to the highest specification, providing the best economy and reliability of operation. There are almost twenty truck manufacturers selling trucks in the UK. Only DAF Trucks offer the finest range of trucks, backed by the finest all-round organisation.



U.K. Dealer Network

## DAF Trucks

DAF Trucks (GB) Limited, Marlow, Buckinghamshire  
Telephone: Marlow (062 84) 71011. Telex: 848489.



The truck you buy today that keeps its promise for tomorrow!

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STRIKE  
OPERATION  
on the industry

Arthur Sandles outlines the arguments within the travel trade over pricing the package tour

# The tourist trade's winter of turmoil

LITTLE over one month's ago the British travel industry assembled in Athens for yet another annual gathering of the British Travel Association. The ABTA conventions are a combination of high finance and high farce.

Association is largely in the hands of small retailers, and women who are well known to the industry. But there are too many Street, outlets for the industry, and are more keen to protect the industry from the type of competition which might thin out the market.

But while the power lies with the retailers, the money is in the hands of the principals, the airlines and tour operators. As far as the tour operators are concerned they now have to be agreed that the industry has come for the rough and ready of open competition to give full rein. Clearly the industry is on a collision course.

At the moment, the rules of the travel industry state quite clearly that tours may only be advertised at the price at which they are sold, and may only be advertised by members of the industry.

This system was introduced in the sixties in order to provide some protection for the public. The tour operator, once he goes bust, everyone else is in the rescue operation. The exclusiveness of this club has excited the attention of consumer bodies and the Monopolies Commission.

The present system was introduced in the sixties in order to provide some protection for the public. The tour operator, once he goes bust, everyone else is in the rescue operation. The exclusiveness of this club has excited the attention of consumer bodies and the Monopolies Commission.

regardless of what the brochure says. In fact some companies are already finding their way through the ABTA rules. Since the letter of the regulations is that prices should be as advertised in the brochure, Thomson Holidays, says that customers should look out for best buys. "Every month we'll be making selections from our summer range of holidays and taking from £5 up to £10 off the price." In other words it will be discounting slow-moving lines.

Retail travel agents are, however, much less worried about this than they are about the prospect of Tesco guaranteeing to take say 20,000 tours from a major tour operator and then being able to sell these tours more cheaply to the public as a result. Tour operators have been unable to voice fully their own views on the subject for fear that, if one of them should become spokesman, the retail trade would boycott his products. It is not surprising, therefore, that the champion of the tour operators has chosen to be Mr. Harry Chandler, who, with his wife René, runs the Travel Club, Britain's biggest direct selling tour operation, and one which pays no commission to anybody. Retailers can do no damage to him.

It was Chandler who stood up at the recent ABTA seminar on restrictive practices held in Glasgow to speak on behalf of the Tour Operators' Council. "Tour operators have been somewhat reluctant to express publicly any opinion contrary to the popular view held by the retail side," he stated. "It would be foolish, however, to continue holding meetings where we hear only the views expressed from one side, and it fails to me therefore, in the guise of devil's advocate, to present you with arguments which may be against the popular view."

Then the affable Mr. Chandler opened the door to a long blast of chilly commercial air. He told the retailers that the tour operators now considered "that as a result of legislation there is no case for the retention of RPM clauses in the tour operators' code of conduct."

The tour men felt themselves free to establish their own prices and terms of business and that their appointed agents were required to conduct business in accordance with those terms.

As far as the tour operators are concerned, that is that, and tours in future will be flexibly priced. If they are selling badly, the price will be cut. Subject of more argument, even among tour operators, is Operation Stabiliser, the scheme whereby ABTA members will only deal with other ABTA members, and thus, in theory, never sell their hands with a doubtful product. Some of the bigger operators are obviously getting very concerned about this. They claim that the Civil Aviation Authority system of levies and licences, which gives Lord Boyd-Carpenter, chairman of the CAA, the role of overseeing the package tour industry, and the Government's own Air

regulations further into disrepute. At the heart of all this is the fact that the travel market in Britain is shrinking fast. The falling pound and economic pressures are taking their toll. More and more customers are thinking twice about going abroad and many of them are turning away from the smaller family fares to Spain, approaching package tour prices, the retailers supported the airline. Now that BA wants to extend further its cheap holiday fare policy, in the teeth of tour operator opposition, again the retailers are backing the airline.

The combined effect of a falling market and wholesale-retail

consumers are worried, not so much about the stability of the company with which they are travelling as about the cost of their holiday. And all of them are agreed that the best way of dealing with this is to spell out the terms upon which surcharges will be made, and to offer guarantees where possible. At a time when the pound has a history of slipping, the offering of price guarantees on any purchases abroad is a tricky subject. Last year some companies, notably Castle, offered complete guarantees that prices would remain as published regardless of what happened to the value of the pound. Castle paid heavily for that one.

Guarantees need not be as expensive as they sound, however. The British Airways type gives a price guarantee for the bookings made before a certain break date. This means that companies are able to make their plans a long way in advance. It also means that once there is a firm contract, a company is allowed to buy its currency forward. This may be expensive, but at least the uncertainty is removed.

Under the Thomas Cook system, the price guarantee applies to people who book and pay. In this way Cooks can choose between buying the currency ahead, or using the interest to delay any fall in the value of sterling. Normally, of course, a heavy fall means high interest rates.

Thomson has guaranteed its prices on villas. These tend to be long term contracts, often made in sterling. Thus the company is able to predict with much more certainty what is likely to happen to its margins.

But in all three of these cases, the company concerned has considerable financial backing just in case the calculations should be a little wrong. Thomas Cook

has the Midland, British Airways has the taxpayer, and Thomson has the television. Added to that, each of them is large enough to be able to spread the currency risk. Thus, only if the pound goes down heavily against all other currencies do they lose. If the peseta falls but the drachma rises, they can do a balancing act.

These opportunities are not available to the smaller independent operators, who saw the events of last year with alarm, and will doubtless be viewing current events with the same concern. Unfortunately they have just lost one of their champions. Mr. Sid Silver, until recently a partner in a consultancy and chairman of the Association of Independent Tour Operators, has resigned. He landed the job of managing director of Britain's tour operator No. 2 (British Airways says No. 3), Cosmo.

Whatever the smaller operators say, there would seem likely to be a further proliferation of guarantee schemes in the near future. At the same time, the writing is clearly on the wall for price maintenance, which would appear to be an encouragement towards a late booking pattern as people delay making reservations in order to get bargains. And the final dramatic change in the scene will be the ending of the Operation Stabiliser, closed shop, freeing tour operators to sell through whatever outlet they choose. This would probably produce more Government intervention in order to license outlets as a further protection for the travelling public.

All in all, it looks like a winter of turmoil for the travel trade. One can only hope that the sun shines in Athens in November. The retail travel agents may need cheering up.



Lord Boyd-Carpenter (left) chairman of the CAA, and Mr. Harry Chandler (right) champion of the tour operators.

## Letters to the Editor

### Incentives for workers

From The President, Institute of Cost and Management Accountants.

Sir—Mr. B. S. Williams (September 14) called for the creation of incentives for persons willing to have a go at raising new enterprises. I would suggest that we also need incentives for people already holding the entrepreneurial burden in existing businesses—whom I mean professional managers.

I have two suggestions to make. First, that Price Commission reference levels should be used to monitor company efficiency, as measured by return on investment, added value, net profit and export turnover. Tax payments based on efficiency should then be allowed to all employees in the enterprise, based as a percentage of their earnings. These payments should be offset against Corporation Tax.

Secondly, in order to attract funds to risk taking activities a need to involve more people in their savings, in the wealth-producing sector. We should encourage companies to attract investments from their workforce by the creation of shareholding participating in shareholding that would carry a fixed rate of dividend, free of tax, so that it had a similar attraction to investment in the building societies.

Profit would still have to be used to pay such a dividend at this would provide an incentive to all involved to ensure that commitment to profit making was a keynote of involvement. The investment holding of an individual would be linked to a current valuation and such a current valuation of shares could be held by trustees.

Both these proposals are based on the belief that we must reward people on the basis of responsibility accepted as well as skills possessed, and that true industrial democracy can only be based on full involvement in the economic viability of an enterprise.

Donald Frank,  
5, Portland Place, W.1.

Mr. Varley now?—Hester. This country, whether veering to the socialism with capitalism or capitalism with socialism end of the current political spectrum, needs entrepreneurship in its manufacturing industry badly. Nationalise us when we get too big if you like, but please make us at least feel that this nation wishes to encourage us to grow and create genuine wealth for the whole society. If Jim Slater had invested properly in manufacturing industry 17 years ago, even he would still be ahead today with some genuine productive and revenue-earning assets behind him. But he didn't, did he?—because it wasn't attractive—understand?

J. G. Potter,  
Willowcroft Works,  
Brook Lane,  
Cottisford, Combs.

### Attitudes of mind

From Mr. E. Parker.

Sir—Workers, Government, businessmen and academics Professor Rodgers (September 22) castigates them all, but to my mind omits the most important group of all—the financiers. It is very difficult to understand the attitude of mind of those presumably British institutions using presumably British funds, which, you tell me, have been refusing to invest in the long loan stock of an elected British Government at the already unattractive rate of 14 per cent, because they want 15 per cent (why not 16 per cent, 20 per cent, or 25 per cent?). Of course, I know that their attitude is dignified with the name of "monetarism," but the end result is either, as Sir Ian Bowater points out on the same page of your paper, that industrialists cannot afford to invest and so unemployment will increase, or that those who are in a position to do so will pass on the costs of their borrowing, and so inflation will increase.

Similarly, you told me recently of British banks lending money to British companies to speculate against sterling, the euphemism in this case being "financing fees and lags" and the end result in this case being an increase in input costs, an increase in inflation and hence another round of speculation against sterling.

I would suggest to Professor Rodgers that the western world's financial system, particularly since the renegeing on Bretton Woods, and particularly with reference to sterling, has set the people of the U.K. an excellent example of the art of taking all and putting nothing.

R. C. Parker,  
Cairn Road,  
Doyle Road,  
St. Peter Port,  
Guernsey.

### The costs of accidents

From The Research Officer, Trade Union Research Unit, Ruskin College.

Sir—Although the letter from Mr. H. R. Heap (September 23) plumbs the depths of commercial cynicism, for example, to go to ridiculous lengths (and costs) to prevent accidents, and drags a notable red herring across the industrial safety debate in the shape of road accident fatalities (certainly on the roads is as unacceptable as carnage in industry and equally deserving of our attention), it does raise the important question of the cost of accidents and accident prevention.

Mr. Heap suggests that the rising costs of accident prevention may inflict penalties upon, to take his example, the chemical industry which will make it "uncompetitive in world markets." To date, the chemical industry, to its credit, has not used this argument, presumably because its competitive position is nowhere near compromised by its investment in safety measures. Indeed, it could be more forcefully argued that its competitive position would suffer far more if it were known to be an industry which did not take safety seriously.

There are, however, two further points which Mr. Heap and his followers should consider. First, there is the tendency for industry to overestimate the cost of safety measures while underestimating the extent to which feasible engineering solutions are available. An article by Nancy Dunne in the Financial Times of October 6, 1975 on the control of noise in industry in the U.S. is a good example of this. In particular the arguments quoted of Mr. L. F. Yorge, consulting engineer to

### Unemployment benefit

From The Deputy Director, National Institute of Economic and Social Research.

Sir—In recent articles in the Financial Times, Mr. Brittan has suggested that, with earnings-related benefits, the unemployed man receives in benefit a much higher proportion of his previous earnings than he used to do. Consequently, it is argued, he searches longer for a job; and this is one reason why a much higher level of unemployment must now be accepted.

Mr. Sumner (September 17), I think, supports this position.

On figures now available, it is clear that this overstates the importance of earnings-related benefits. Over the period when this change in the nature of unemployment was supposed to have been taking place—between end 1956 and 1970—the number of unemployed men receiving earnings-related supplements averaged about 80,000. Even if one takes the extreme assumption that the receipt of this supplement doubled the length of time taken to find another job, this would only have added 45,000 to the unemployment total.

Frank Blackaby,  
2, Dean Trench Street,  
Smith Square, S.W.1.

### No point in a conference

From Mr. V. Milrath.

Sir—No point in a Labour Party conference! (September 24.) Can there be misarrangements without labour?

Victor D. Milrath,  
Branton and Godard,  
St. Clementine, E.C.2.

## To-day's Events

- Labour Party Conference opens, Blackpool.
- House of Lords returns from Summer Recess for over 100 days to debate legislation delayed in Commons.
- Department of Trade and Industry conference on procedures followed in company investigations, London.
- Leading copper producing and consuming countries, under auspices of UN Conference on Trade and Development (UNCTAD), begin renewed talks on stabilization of world copper market, Geneva.
- Government tea subsidy, equivalent to 2p a quarter-pound packet, now abolished.
- Viscount Watkinson, CBI president, opens five-day International Industrial Film Festival, National Film Theatre, South Bank, S.E.1.
- Environmental Health Congress and Exhibition opens, Harrogate Exhibition Centre.
- Sir Lindsay Ring, Lord Mayor of London, attends Tobacco Pipe Makers and Tobacco Blenders Company dinner, Mansion House.
- PARLIAMENTARY BUSINESS
- House of Lords: Committee proceedings on Race Relations Bill, Retirement of Teachers Bill (Scotland) Bill (H.L.) and Value
- tion and Rating (Exempted Classes) (Scotland) Bill (H.L.).
- OFFICIAL STATISTICS
- Construction new orders (July).
- COMPANY RESULTS
- Perry Bilton (half-year). Pisons (half-year). John Laing and Son (half-year). Tarmac (half-year).
- COMPANY MEETINGS
- See Week's Financial Diary on page 35.
- EXHIBITIONS
- Autumn Floorcoverings Fair opens, Metropolis Exhibition Centre, Brighton.
- American Packaging Equipment Systems Exhibition opens, U.S. Trade Centre, W.1.
- MUSIC
- John Shirley-Quirk (bass-baritone) and Vladimir Ashkenazy (piano) in programme of Shostakovich (Suite on verses of Michaelangelo Buonarroti for bass and piano); and Schubert (Schwanengesang), Queen Elizabeth Hall, S.E.1, 7.45 p.m.
- London Symphony Orchestra, conductor Nare Soustrol, with Dora Schwarzburg (violin) play Tchaikovsky (Fantasy Overture, Romeo and Juliet; Violin Concerto in D; Nutcracker Suite, Capriccio Italien; Overture 1812), Royal Festival Hall, S.E.1, 8 p.m.

## How do you know your insurance abroad is as good as your insurance cover here?



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We'll propose covers to meet your local and world-wide corporate needs.

We'll be on call to discuss with you insurance trends, or analyse particular claims areas.

We'll help you with services and data on better risk control.

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## F.S. Ratcliffe Industries Ltd.

### EXTRACTS FROM THE CHAIRMAN'S STATEMENT

at the Annual General Meeting in Rochdale on the 24th September 1976

- In spite of achieving a Group Turnover of £1,383,687 comparable with the £1,381,231 of 1975, I regret to report a Group Profit before taxation of £29,236 against £185,945 for the previous year.
- Pre-tax profit in respect of Arthur Lord & Sons (Rochdale) Ltd. is included and amounts to £53,803 compared with £55,076 in 1975.
- Group profit after taxation amounts to £44,131 against £85,583. In view of this a reduced dividend of 2p per share is recommended.
- Once again overheads have risen rapidly as a result of high inflation and some production departments, particularly the heavier spring sections have suffered from lack of orders. Other sections, however, continue to be extremely busy.
- Every effort is being made to reduce overheads, and production at the Newhey factory has been transferred to Norman Road.
- Our quality and service is being maintained and all steps are being taken to regain the previous level of profitability.

## FT SURVEY OF CONSUMER CONFIDENCE

# Financial expectations at their lowest ebb

BY ELMOR GOODMAN, CONSUMER AFFAIRS CORRESPONDENT

CONSUMERS' CONFIDENCE has fallen to its lowest ebb this year, according to the latest survey of financial expectations by the British Market Research Bureau.

Against this, however, the September survey (though some of the research was carried out in the last few days of August) shows that the proportion of people thinking now was the time to buy consumer durable held steady. At the same time, the professional and salaried men interviewed seemed to be feeling noticeably more prosperous than at any time since the beginning of the year.

Monitored on a monthly basis, consumer confidence has been very volatile this year. After seeming to improve in the first

quarter of 1976, it fell sharply in April only to recover again in July.

Last month it fell again. The deterioration was sustained in September. Whereas at the start of August the pessimists outweighed the optimists among all adults by 12 per cent, in the latest survey they outnumbered the optimists by 18 per cent. This is the lowest monthly figure recorded this year, though it is still higher than in the autumn of 1975.

This feeling of gloom was spread fairly evenly across the different types of people interviewed. The salaried and professional men in the sample, who in July showed a big increase in confidence, were once again leaning towards pessimism in September, with those expecting conditions to worsen outweighing those who thought the situation would improve by 16 per cent.

The six months moving average figures for future confidence which are particularly relevant in the present volatile conditions — give a better idea of the underlying trend, also fell in September.

The index for all adults fell from -5.2 per cent in August to -8.2 per cent this month. For ABC1 men the six month moving average fell from -2.5 per cent to -5.5 per cent in September.

The major cause for pessimism was again rising prices, followed by the Government. Concern about strikes was only cited by 6 per cent of the pessimists.

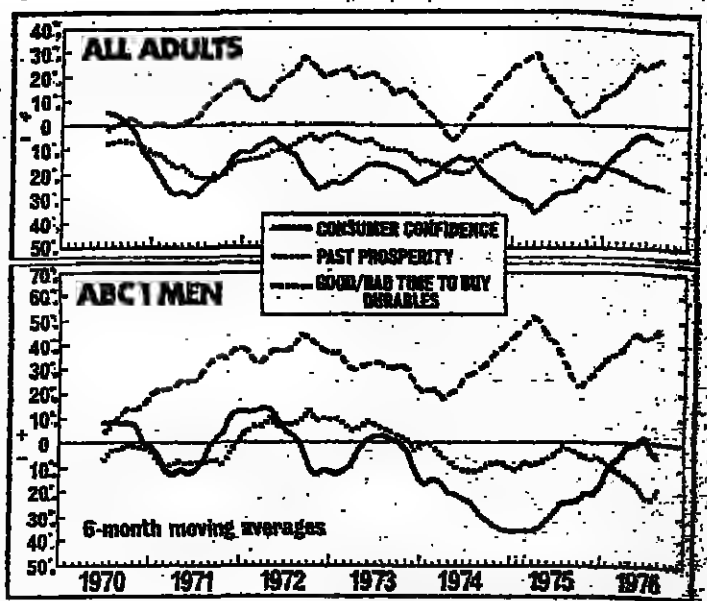
Worries about unemployment rose again, with 17 per cent of the pessimists mentioning them spontaneously. This is approaching the high figure of January last year when 21 per cent of those worried about the future mentioned strikes.

There was no noticeable change in September in the proportion of all adults feeling a good time to buy consumer durables fell slightly in September, the six-month figure rose to its highest level this year. The proportion of people in favour of buying consumer durables outweighed those who thought it was not a good time to buy by 26.8 per cent. This compares with 25 per cent in August.

Last month the proportion of professional and salaried men who said they were feeling worse off compared to a year ago outweighed those who were feeling better off by 20 per cent. The balance this month was only 7 per cent in favour of those feeling worse off.

On a six-month moving average basis the index for past prosperity for ABC1 men has been declining steadily since last August and now stands at 20 per cent. The all adults figure has drifted more gently down to 25 per cent.

Against this, however, the six month moving average "time to buy" index is still increasing, mainly on inflationary expectations. Though the proportion of all adults who thought it was a good time to buy consumer durables fell slightly in September, the six-month figure rose to its highest level this year. The proportion of people in favour of buying consumer durables outweighed those who thought it was not a good time to buy by 26.8 per cent. This compares with 25 per cent in August.



The ABC1 men continued to 47 per cent more professional be much more enthusiastic and salaried men said they thought September was a good time to buy than those who did the people interviewed. Over not.

## NOTICE OF REDEMPTION

To the Holders of

## ENTE NAZIONALE IDROCARBURI

### E.N.I.

(National Hydrocarbons Authority)

6 3/4% Sinking Fund Debentures due November 1, 1988

NOTICE IS HEREBY GIVEN that, pursuant to the provisions of the Sinking Fund for the Debentures of the above-described issue, Morgan Guaranty Trust Company of New York, as Fiscal Agent, has selected by lot for redemption on November 1, 1976 at the principal amount thereof \$302,000 principal amount of said Debentures bearing the following serial numbers:

DEBENTURES OF U.S. \$1,000 EACH									
M-11	834	3008	8419	4071	4973	5333	6109	7049	8060
10	908	2025	2531	4084	4578	5111	6138	7049	8060
10	908	2025	2531	4084	4578	5111	6138	7049	8060
10	908	2025	2531	4084	4578	5111	6138	7049	8060
10	908	2025	2531	4084	4578	5111	6138	7049	8060
10	908	2025	2531	4084	4578	5111	6138	7049	8060
10	908	2025	2531	4084	4578	5111	6138	7049	8060
10	908	2025	2531	4084	4578	5111	6138	7049	8060
10	908	2025	2531	4084	4578	5111	6138	7049	8060
10	908	2025	2531	4084	4578	5111	6138	7049	8060

On November 1, 1976, there will become due and payable upon each Debenture the principal amount thereof, in such coin or currency of the United States of America as on said date is legal tender for the payment thereof of public and private debts, at the option of the holder, either (a) at the corporate trust office of Morgan Guaranty Trust Company of New York, 15 Broad Street, New York, N.Y. 10018, or (b) subject to any laws and regulations applicable thereto with respect to the payment, currency of payment or otherwise in the country of any of the following offices, at the principal office of Banca Nazionale del Lavoro in Rome or the principal office of Banca Commerciale Italiana in Milan or the main office of Morgan Guaranty Trust Company of New York in London, Brussels, Paris or Frankfurt or the main office of Allgemeine Bank Nederland N.V. in Amsterdam or the main office of Kredietbank S.A. Luxembourg in Luxembourg-Ville.

Debentures surrendered for redemption should have attached all unmatured coupons appurtenant thereto. Coupons due November 1, 1976 should be detached and collected in the usual manner. From and after November 1, 1976 interest shall cease to accrue on the Debentures herein designated for redemption.

ENTE NAZIONALE IDROCARBURI

By: MORGAN GUARANTY TRUST COMPANY

OF NEW YORK, Fiscal Agent

September 27, 1976

## NOTICE

The following Debentures previously called for redemption have not as yet been presented for payment:

DEBENTURES OF U.S. \$1,000 EACH									
M-7720	13058	19418	18449	18467	18478				

## Six jobs for every secretarial worker

THERE are six vacancies for every available secretarial worker in central London. The situation would have been much worse but for the transfer of 150,000 office jobs to outlying areas, the Location of Offices Bureau adds.

Discussion about the future of employment in London had become confused by a failure to distinguish between manufacturing industry and office work, Mr. C. A. Frenders, chairman, said yesterday.

"It is the manufacturing and service industries that have been declining or moving out of London, leaving substantial

pockets of unemployment in the denuded areas. In office employment, demand for labour considerably outruns supply."

High rents, very high rates, and high salaries were the factors which provided powerful incentives to move out, he added.

To attempt to counter these economic factors by persuading people to stay put or—worse still—to move back, would be attacking the wrong problem in the wrong way. It would indicate a complete misunderstanding of the economic facts of employment in the capital.

## Doubts about pound rule out interest rate fall

IT WOULD be optimistic to look for any short-term decline in U.K. interest rates, Williams and Glyn's Bank says in its latest monthly summary of European interest rates, published today.

The bank remarks that, despite the recent widening in the differential between rates in London and New York, the pound seems likely to remain weak, in the light of widespread uncertainty about British economic

and financial prospects. "Moreover, interest rates in the U.S. could well start to harden before the end of the year, under the influence of a recovery in industry's demand for bank credit provoked by mounting pressure on internally generated funds."

The summary shows that short-term interest rates in Europe continued to rise in the four weeks to mid-September. The foreign exchange markets were relatively quiet after the previous month's upheaval, says the bank, but the Netherlands Bank raised its official discount rate by a further 1 per cent to seven per cent on the 20th.

Norway also raised its discount rate by a full point, to six per cent, on September 8. In the U.K., concern over the threatened seamen's strike, combined with a rapid growth in the money supply in recent months, led to a general increase in interest rates. The only exception to the hardening in European rates was Switzerland, where loan rates were reduced by 1 per cent to six per cent on September 1.

## FT Grocery Prices Index rises 4.1% this month

BY DONALD MACLEAN

THE FINANCIAL TIMES Grocery Prices Index rose exceptionally 4.1 per cent this month, with a 1.1 per cent increase in the index for food prices alone.

On Tuesday of last week, the index stood at 230.34, or 9 points above the August level. The bill, incurred by the Financial Times' 11 shoppers around the country, was £680.78, against £654.17 in August.

All ten categories into which the basket is divided showed increases on the month. Meat prices have lately been increased by the summer heat, while the price of milk has gone up 1p a pint.

Potato prices rose by 1p or 2p a lb on the month (to 12.5p a lb on the month). This is a sharp increase, but is in line with the standards of past months, but was sufficient to move the index in the value of the shopping basket.

After falling back in June and July for the first time since July last year, the FT index has now gained 13.50 points—or 5.8 per cent—in two months and stands 25.4 per cent higher than at this time last year.

Contributing to some extent to the recent upturn has been Government policy on food subsidies, and maximum prices with bread, tea and milk all recently affected by Government decisions.

Also playing a part has been the drought, affecting farm production, while among underlying factors are the ending of the Selective Price Restraint scheme in months, but was sufficient to move the index in the value of the shopping basket.

The jump in the cost of the dairy produce sector was accounted for largely by a 1p a pint increase in milk, but was also affected appreciably by increases averaging around 4p a dozen in the price of eggs—continuing the reversal in their price seen in August.

Coffee, as well as tea, prices rose, while in the meat category, ham, bacon, chicken, beef and lamb prices all rose—as did the price of pork chops, though pork sausages tended to be cheaper. In the vegetable field, tomatoes were often dearer, but lettuce fell back in cost, after rising the previous month.

After falling by about 13 per cent, or so, in the six months to August in terms of the dollar, sterling has in the past month lost a further 34 per cent.

## FINANCIAL TIMES SHOPPING BASKET

	September 1976	August 1976
Dairy Produce	120.25	112.77
Sugar, Tea, Coffee, Soft Drinks	52.94	50.37
Bread, Flour, Cereals	70.73	70.27
Preserves and Dry Groceries	24.49	22.02
Sauces and Pickles	12.71	12.32
Canned goods	41.83	41.61
Frozen foods	35.30	35.16
Meat, Bacon, etc. (fresh)	157.29	150.82
Fruit and Vegetables	104.96	102.29
Non-Foods	49.51	49.17
Total	680.78	654.17

## Exhibition of printing

FOR the first time since it was opened three years ago all seven floors of Birmingham Central Library, one of the biggest in Europe, will be in use for an exhibition celebrating the 500th anniversary of the introduction of printing to England by William Caxton.

The exhibition, which opens on Thursday and runs for a month, includes two books from the reference library's early and fine printing collection. It will also show the latest techniques.

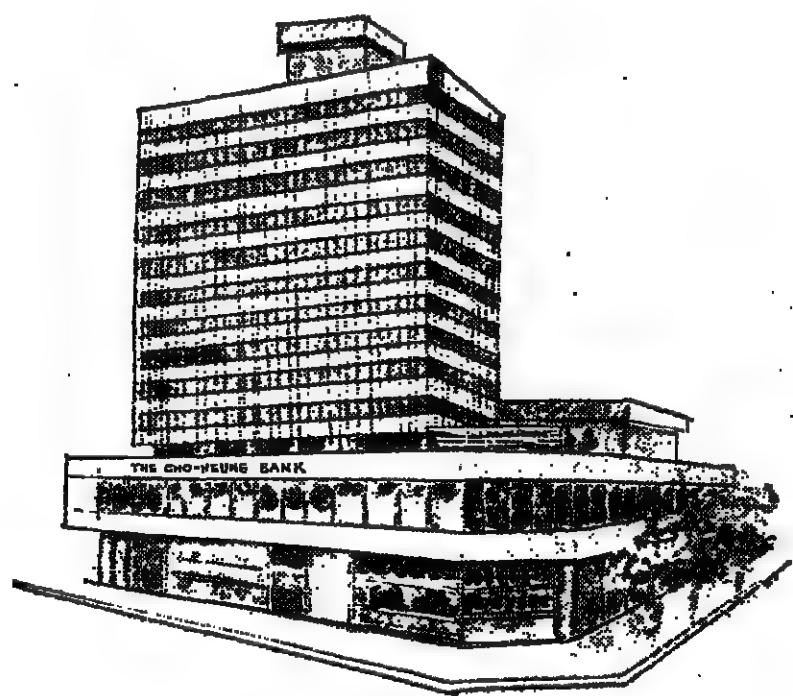
## Quarterly analysis of bank advances

—to U.K. residents by banks in the U.K. at August 18, 1976; as Table 4 in Bank of England Quarterly Bulletin.

		ADVANCES TO U.K. RESIDENTS				FINANCIAL SERVICES			
		Total	In sterling	In foreign currency	Total	In sterling	In foreign currency	Total	In sterling
London clearing banks	1976 May 19	13,348	12,222	1,126	2,972	251	107	1,028	1,028
	Aug. 18	13,118	12,205	1,913	2,953	265	98	1,055	1,055
	1976 May 19	1,729	1,591	138	238	88	18	106	106
	Aug. 18	1,841	1,584	257	240	68	23	148	148
Northern Ireland banks	1976 May 19	341	329	12	18	2	13	15	15
	Aug. 18	341	329	12	18	2	13	15	15
	1976 May 19	15,373	14,209	1,164	3,208	300	122	1,328	1,328
	Aug. 18	15,259	14,159	1,100	3,100	341	133	1,374	1,374
All banks	1976 May 19	31,092	28,733	2,359	6,166	641	238	2,488	2,488
	Aug. 18	30,659	28,529	2,130	5,953	689	241	2,529	2,529
	1976 May 19	1,637	1,526	111	111	37	11	48	48
	Aug. 18	1,540	1,428	112	112	37	11	48	48
London clearing banks	1976 May 19	3,376	3,126	250	562	64	759	615	1,231
	Aug. 18	3,376	3,126	250	562	64	759	615	1,231
	1976 May 19	514	472	42	63	33	59	77	186
	Aug. 18	514	472	42	63	33	59	77	186
Northern Ireland banks (c)	1976 May 19	111	107	4	10	5	41	16	40
	Aug. 18	111	107	4	10	5	41	16	40
	1976 May 19	5,215	4,829	386	1,493	405	291	1,210	1,210
	Aug. 18	5,081	4,751	330	1,453	418	270	1,200	1,200
All banks	1976 May 19	9,513	8,954	559	2,190	507	1,172	1,818	1,818
	Aug. 18	9,454	8,936	518	2,156	518	1,154	1,779	1,779
	1976 May 19	1,637	1,526	111	111	37	11	48	48
	Aug. 18	1,540	1,428	112	112	37	11	48	48
London clearing banks	1976 May 19	3,165	2,880	285	393	194	687	286	527
	Aug. 18	3,165	2,880	285	393	194	687	286	527
	1976 May 19	407	372	35	50	27	87	47	61
	Aug. 18	427	386	41	51	27	87	47	61
Northern Ireland banks (c)	1976 May 19	67	63	4	10	5	41	16	40
	Aug. 18	67	63	4	10	5	41	16	40
	1976 May 19	3,451	3,298	153	1,493	405	291	1,210	1,210
	Aug. 18	3,333	3,183	150	1,453	418	270	1,200	1,200
All banks	1976 May 19	7,083	6,713	338	2,190	507	1,172	1,818	1,818
	Aug. 18	6,983	6,613	370	2,156	518	1,154	1,779	1,779
	1976 May 19	1,637	1,526	111	111	37	11	48	48
	Aug. 18	1,540	1,428	112	112	37	11	48	48
London clearing banks	1976 May 19	1,776	1,617	159	276	494	52	216	280
	Aug. 18	1,847	1,688	159	276	494	52	216	280
	1976 May 19	205	183	22	27	85	272	71	201
	Aug. 18	225	203	22	27	85	272	71	201
Northern Ireland banks (c)	1976 May 19	68	64	4	10	5	41	16	40
	Aug. 18	68	64	4	10	5	41	16	40
	1976 May 19	1,436	1,352	84	1,493	405	291	1,210	1,210
	Aug. 18	1,355	1,268	87	1,453	418	270	1,200	1,200
All banks	1976 May 19	3,586	3,325	243	1,554	418	270	1,200	1,200
	Aug. 18	3,506	3,246	260	1,514	429	281	1,195	1,195
	1976 May 19	1,637	1,526	111	111	37	11	48	48
	Aug. 18	1,540	1,428	112	112	37	11	48	48

(a) Figures for Northern Ireland not available, because of industrial action by bank employees; total for all banks at mid-August include Northern Ireland figures for mid-May. (b) Including lending under special schemes for domestic shipbuilding. (c) The analysis provided by Northern Ireland banks differs slightly from other banks. Chemicals and allied industries are included indistinctly in "Other manufacturing." Metal manufacture, Electrical engineering, Shipbuilding and Vehicles in "Other engineering and metal goods," and Transport and communications in "Public utilities and national government." (d) The second lines of figures exclude as far as possible the effect of changes in exchange rates on the sterling value of advances in foreign currency.

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## FT SHARE INFORMATION SERVICE

### CANADIANS

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
14	140 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	17	170 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
15	150 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	18	180 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
16	160 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	19	190 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
20	200 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	21	210 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### BANKS AND HIRE PURCHASE

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
22	220 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	23	230 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
24	240 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	25	250 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
26	260 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	27	270 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
28	280 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	29	290 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### INTERNATIONAL BANK

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
30	300 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	31	310 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
32	320 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	33	330 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
34	340 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	35	350 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### CORPORATION BONDS

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
36	360 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	37	370 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
38	380 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	39	390 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
40	400 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	41	410 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### COMMONWEALTH & AFRICAN BONDS

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
42	420 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	43	430 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
44	440 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	45	450 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
46	460 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	47	470 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### FOREIGN BONDS & RAILS

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
48	480 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	49	490 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
50	500 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	51	510 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
52	520 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	53	530 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### AMERICANS

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
54	540 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	55	550 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
56	560 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	57	570 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
58	580 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	59	590 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### BUILDING INDUSTRY—Continued

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
60	600 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	61	610 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
62	620 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	63	630 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
64	640 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	65	650 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### DRAPERY AND STORES—Continued

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
66	660 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	67	670 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
68	680 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	69	690 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
70	700 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	71	710 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### ELECTRICAL AND RADIO

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
72	720 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	73	730 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
74	740 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	75	750 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
76	760 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	77	770 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### CHEMICALS, PLASTICS

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
78	780 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	79	790 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
80	800 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	81	810 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
82	820 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	83	830 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### CINEMAS, THEATRES AND TV

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
84	840 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	85	850 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
86	860 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	87	870 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
88	880 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	89	890 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### BUILDING INDUSTRY—TIMBER

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
90	900 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	91	910 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
92	920 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	93	930 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
94	940 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	95	950 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### AND ROADS

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
96	960 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	97	970 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
98	980 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	99	990 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
100	1000 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	101	1010 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### DRAPERY AND STORES

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
102	1020 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	103	1030 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
104	1040 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	105	1050 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
106	1060 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	107	1070 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### DRAPERY AND STORES—Continued

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
108	1080 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	109	1090 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
110	1100 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	111	1110 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
112	1120 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	113	1130 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### ENGINEERING—Continued

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
114	1140 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	115	1150 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
116	1160 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	117	1170 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
118	1180 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	119	1190 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### ENGINEERING—MACHINE TOOLS

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
120	1200 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	121	1210 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
122	1220 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	123	1230 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
124	1240 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	125	1250 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### FOOD, GROCERIES, ETC.

Dividend	Stock	Price	Last	Net	Yield	Dividend	Stock	Price	Last	Net	Yield
126	1260 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	127	1270 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
128	1280 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	129	1290 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2
130	1300 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2	131	1310 Treasury 10-10-76	87 1/2	84 1/2	9 1/2	12 1/2

### HOTELS AND CATERERS

3	Mar.	Sept.	Austin Garret	70	6 1/2	17 1/2
3	Dec.	Apr.	Auto-Oil Corp.	38	17 1/2	17 1/2
1	Jan.	Apr.	Avco	183	17 1/2	17 1/2
1	Nov.	May	Babcock & W.	69 1/2	20 1/2	20 1/2
1	Dec.	June	Baker Park 50p	62	20 1/2	20 1/2
9	April		Barnford 50p	26	23 1/2	23 1/2
1	Nov.	May	Barton & Sons	44 1/2	20 1/2	20 1/2
1	May	Nov.	Bate (Wm.) 20p	67 1/2	20 1/2	20 1/2
4	Apr.	Dec.	Bearford 10p	33	20 1/2	20 1/2
			Boston Ind. 50p	15	9 1/2	9 1/2
	Feb.	Oct.	Bryan (D.F.) 5p	131 1/2	23 1/2	23 1/2
	Oct.	Nov.	Burl Peacock 10p	23	23 1/2	23 1/2



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INDUSTRIALS - Continued

Stock	Price	Div	Yield	Div	Yield
British Steel	100	10	10.0	10	10.0
British Petroleum	100	10	10.0	10	10.0
British Airways	100	10	10.0	10	10.0
British Airways	100	10	10.0	10	10.0
British Airways	100	10	10.0	10	10.0

INSURANCE

Stock	Price	Div	Yield	Div	Yield
British Insurance	100	10	10.0	10	10.0
British Insurance	100	10	10.0	10	10.0
British Insurance	100	10	10.0	10	10.0
British Insurance	100	10	10.0	10	10.0

PROPERTY - Continued

Stock	Price	Div	Yield	Div	Yield
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0

TRUSTS - Continued

Stock	Price	Div	Yield	Div	Yield
British Trusts	100	10	10.0	10	10.0
British Trusts	100	10	10.0	10	10.0
British Trusts	100	10	10.0	10	10.0
British Trusts	100	10	10.0	10	10.0

MOTORS, AIRCRAFT TRADES

Motors and Cycles

Stock	Price	Div	Yield	Div	Yield
British Motors	100	10	10.0	10	10.0
British Motors	100	10	10.0	10	10.0
British Motors	100	10	10.0	10	10.0
British Motors	100	10	10.0	10	10.0

Commercial Vehicles

Stock	Price	Div	Yield	Div	Yield
British Commercial	100	10	10.0	10	10.0
British Commercial	100	10	10.0	10	10.0
British Commercial	100	10	10.0	10	10.0
British Commercial	100	10	10.0	10	10.0

Components

Stock	Price	Div	Yield	Div	Yield
British Components	100	10	10.0	10	10.0
British Components	100	10	10.0	10	10.0
British Components	100	10	10.0	10	10.0
British Components	100	10	10.0	10	10.0

Garages and Distributors

Stock	Price	Div	Yield	Div	Yield
British Garages	100	10	10.0	10	10.0
British Garages	100	10	10.0	10	10.0
British Garages	100	10	10.0	10	10.0
British Garages	100	10	10.0	10	10.0

SHIPBUILDERS, REPAIRERS

Stock	Price	Div	Yield	Div	Yield
British Shipbuilders	100	10	10.0	10	10.0
British Shipbuilders	100	10	10.0	10	10.0
British Shipbuilders	100	10	10.0	10	10.0
British Shipbuilders	100	10	10.0	10	10.0

SHIPPING

Stock	Price	Div	Yield	Div	Yield
British Shipping	100	10	10.0	10	10.0
British Shipping	100	10	10.0	10	10.0
British Shipping	100	10	10.0	10	10.0
British Shipping	100	10	10.0	10	10.0

SHOES AND LEATHER

Stock	Price	Div	Yield	Div	Yield
British Shoes	100	10	10.0	10	10.0
British Shoes	100	10	10.0	10	10.0
British Shoes	100	10	10.0	10	10.0
British Shoes	100	10	10.0	10	10.0

NEWSPAPERS, PUBLISHERS

Stock	Price	Div	Yield	Div	Yield
British Newspapers	100	10	10.0	10	10.0
British Newspapers	100	10	10.0	10	10.0
British Newspapers	100	10	10.0	10	10.0
British Newspapers	100	10	10.0	10	10.0

SOUTH AFRICANS

Stock	Price	Div	Yield	Div	Yield
British South Africans	100	10	10.0	10	10.0
British South Africans	100	10	10.0	10	10.0
British South Africans	100	10	10.0	10	10.0
British South Africans	100	10	10.0	10	10.0

TEXTILES

Stock	Price	Div	Yield	Div	Yield
British Textiles	100	10	10.0	10	10.0
British Textiles	100	10	10.0	10	10.0
British Textiles	100	10	10.0	10	10.0
British Textiles	100	10	10.0	10	10.0

PAPER, PRINTING, ADVERTISING

Stock	Price	Div	Yield	Div	Yield
British Paper	100	10	10.0	10	10.0
British Paper	100	10	10.0	10	10.0
British Paper	100	10	10.0	10	10.0
British Paper	100	10	10.0	10	10.0

PROPERTY

Stock	Price	Div	Yield	Div	Yield
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0

PROPERTY

Stock	Price	Div	Yield	Div	Yield
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0

PROPERTY

Stock	Price	Div	Yield	Div	Yield
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0

PROPERTY

Stock	Price	Div	Yield	Div	Yield
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0

PROPERTY

Stock	Price	Div	Yield	Div	Yield
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0

PROPERTY

Stock	Price	Div	Yield	Div	Yield
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0

PROPERTY

Stock	Price	Div	Yield	Div	Yield
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0

PROPERTY

Stock	Price	Div	Yield	Div	Yield
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0

PROPERTY

Stock	Price	Div	Yield	Div	Yield
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0

PROPERTY

Stock	Price	Div	Yield	Div	Yield
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0

PROPERTY

Stock	Price	Div	Yield	Div	Yield
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0

PROPERTY

Stock	Price	Div	Yield	Div	Yield
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0
British Property	100	10	10.0	10	10.0

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**SANWA**

BANK

Tokyo, Japan

MINES - Continued

Stock	Price	Div	Yield	Div	Yield
British Mines	100	10	10.0	10	10.0
British Mines	100	10	10.0	10	10.0
British Mines	100	10	10.0	10	10.0
British Mines	100	10	10.0	10	10.0

FINANCE, LAND, ETC.

Stock	Price	Div	Yield	Div	Yield
British Finance	100	10	10.0	10	10.0
British Finance	100	10	10.0	10	10.0
British Finance	100	10	10.0	10	10.0
British Finance	100	10	10.0	10	10.0

FINANCE

Stock	Price	Div	Yield	Div	Yield
British Finance	100	10	10.0	10	10.0
British Finance	100	10	10.0	10	10.0
British Finance	100	10	10.0	10	10.0
British Finance	100	10	10.0	10	10.0

DIAMOND AND PLATINUM

Stock	Price	Div	Yield	Div	Yield
British Diamonds	100	10	10.0	10	10.0
British Diamonds	100	10	10.0	10	10.0
British Diamonds	100	10	10.0	10	10.0
British Diamonds	100	10	10.0	10	10.0

CENTRAL AFRICAN

Stock	Price	Div	Yield	Div	Yield
British Central	100	10	10.0	10	10.0
British Central	100	10	10.0	10	10.0
British Central	100	10	10.0	10	10.0
British Central	100	10	10.0	10	10.0

AUSTRALIAN

Stock	Price	Div	Yield	Div	Yield
British Australia	100	10	10.0	10	10.0
British Australia	100	10	10.0	10	10.0
British Australia	100	10	10.0	10	10.0
British Australia	100	10	10.0	10	10.0

TINS

Stock	Price	Div	Yield	Div	Yield
British Tins	100	10	10.0	10	10.0
British Tins	100	10	10.0	10	10.0
British Tins	100	10	10.0	10	10.0
British Tins	100	10	10.0	10	10.0

OVERSEAS TRADERS

Stock	Price	Div	Yield	Div	Yield
British Overseas	100	10	10.0	10	10.0
British Overseas	100	10	10.0	10	10.0
British Overseas	100	10	10.0	10	10.0
British Overseas	100	10	10.0	10	10.0

RUBBERS AND SISALS

Stock	Price	Div	Yield	Div	Yield
British Rubbers	100	10	10.0	10	10.0
British Rubbers	100	10	10.0	10	10.0
British Rubbers	100	10	10.0	10	10.0
British Rubbers	100	10	10.0	10	10.0

MISCELLANEOUS

Stock	Price	Div	Yield	Div	Yield
British Misc	100	10	10.0	10	10.0
British Misc	100	10	10.0	10	10.0
British Misc	100	10	10.0	10	10.0
British Misc	100	10	10.0	10	10.0

NOTES

Notes on the financial data provided, including details on dividends, yields, and stock prices.

TEAS

Stock	Price	Div	Yield	Div	Yield
British Teas	100	10	10.0	10	10.0
British Teas	100	10	10.0	10	10.0
British Teas	100	10	10.0	10	10.0
British Teas	100	10	10.0	10	10.0



## Private sector steel plans £50m. plant

BY ROY HODSON

PLANS BY A consortium of private sector steel companies to build a £50m. iron ore reduction plant to provide a common source of raw material are thought likely to go ahead either at Jarrow Slake, Tyne and Wear, or at Hartlepool, Teesside.

An announcement that the investment will be supported by Government grants is expected within about a month. Before then a final decision on the site must be made. The consortium has been negotiating for some time with the local authorities, and assessing terms and facilities which would be available.

Talks have been taking place in the last few days between members of the British Independent Steel Producers' Association and the Department of Industry over the ore plant and the level of forthcoming Government support.

Under the statutory grants, the Government would contribute about £11m. towards a 50m. ore plant, the steel companies want to build. But the Government may concede a case for extra financial assistance in the form of loans or interest relief

on borrowing under selective assistance rules.

The private sector steel companies have looked at the idea of having their own iron supply for their steelworks and foundries on several occasions since the price of scrap iron and steel began to rise two years ago. But it was not until a firm proposal was circulated by one member company among other members of the producers' association earlier this year that a consortium-owned ore reduction plant began to be accepted within the industry as a logical and feasible development.

### Scrap prices

The sharp rise in scrap prices in the first three months of 1976 helped the steelmakers make their decision. Although scrap prices have eased, there is every prospect in the long term of a growing permanent shortage of scrap.

The ore reduction plant proposed was helped forward recently when the Government

accepted the view put in sector reports that scrap shortages could inhibit steel-making in the future and that consequent shortages of steel could damage economic expansion.

The ore reduction plant will be based on the use of imported iron ore arriving at a deep-water terminal alongside the chosen site. Natural gas is expected to be the fuel used for the reducing process. The crude form of iron produced will be used to supplement supplies of scrap to feed the member companies' steel-making furnaces and foundries. Most of the material will go to Sheffield and Birmingham steelworks and foundries. Quantities will also be needed for steel-making in the south-east, at Sheerness.

An annual production level for the plant of 800,000 tonnes of ferrous material has been discussed. Such a supply would go a long way towards easing raw material shortages for the 3m. tonnes a year private sector industry.

The size of the plant will depend on which of three concepts is chosen. It is understood that the private steel consortium is close to a decision on the design.

## Brazil uranium deal worth £10m. a year

BY DAVID FISHLOCK IN RIO DE JANEIRO

BRAZIL IS close to signing a nuclear fuel contract worth £10m. a year to Britain throughout the 1980s.

The contract is for the enrichment of uranium for Brazil's second and third nuclear power stations, totalling 2,600 MW output, under construction by West Germany at Angra dos Reis, near Rio de Janeiro.

Brazil has negotiated for enrichment supplies through the Bonn Government, under the bilateral nuclear agreement of 1975 with West Germany. Cenco, the Anglo-German-Dutch uranium enrichment company, will provide the enrichment for the stations.

Although Brazil has not signed the non-proliferation treaty, the enriched uranium will be delivered under international safeguards reinforced in several important respects — as the British Government sees it — by the terms of the Brazilian-German treaty.

It will be the largest single contract secured by Urenco for its novel gas centrifuge method of enrichment. Its previous big contracts have been with U.K. and West German utilities.

Cenco, one-third owned by British Nuclear Fuels, has factories under construction at Copenhagen, near Chester, where the U.K. government recently approved a £300m. investment programme, and at Almelo in Holland. Both factories are expected to be in operation before the end of the year.

Under the Brazilian-German nuclear agreement, the two countries are collaborating in developing a different method of enrichment, called the jet-nozzle process.

According to German officials who have been holding the first shareholder meeting here, of the new joint Brazilian-German enrichment company, the enrichment facility is not a high priority for Brazil. Its highest priorities are reactor design and major component manufacture.

Untried

Brazilian officials reckon that a small jet-nozzle enrichment facility in Brazil capable of servicing about 3,000 MW of nuclear plants would take five to seven years to commission on the most optimistic assumptions. The jet method, which the partners are funding as a joint technology programme at a German research centre, has not yet had its crucial full-size trials.

Brazil sees enrichment as an efficient means of storing electricity, so avoiding the need to transmit some of its still untapped hydro-electric resources about 2,000 miles to the nearest load centre. It is examining the possibilities of building a jet-nozzle plant high up the Amazon.

According to one Brazilian authority, the energy losses in such a process, at 5 to 6 per cent, are similar to the energy losses in transporting and processing oil.

## THE LEX COLUMN

# Tate after the takeover

A rights issue, a string of substantial acquisitions, and high rates of profitability have transformed Tate and Lyle's profile over the last two years. Including £48m. for Manbre and Garion, the group has spent nearly £70m. on cash acquisitions over the last nine months — which is roughly equivalent to its aggregate spending on fixed assets over the last four years.

There have been two main sources of finance for this takeover activity. The first stems from the sharp fall in sugar prices, which has released a large slab of the extra cash sucked into working capital during 1974-75. Stocks and debtors, less creditors, rose by £47m. during that year — and could have dropped by something like £40m. in the latest 12-month period.

### Strong cash flow

At the same time, the group's continuing profits progress — combined with negligible tax liabilities in the U.K. during 1975-76 — may have pushed net cash flow up to more than £30m. over the year just ending, which is getting on for £30m. more than it has spent on fixed assets.

As a result, short term borrowings of £8m. last September had been converted into net cash balances of £38m. immediately before the Manbre bid. After taking Manbre into the figures, Tate will have term loans of £60m. or so and net short term borrowings of perhaps £10m. to £15m.

Of course there is always the risk that the sugar price could shoot back up again. Tate suggests that since a sizeable part of its inventories now relate to EEC supplies, its working capital needs could be more insulated against world price movements than used to be the case. More tangibly, it can point to the fact that short term debt after completion of the Manbre bid will actually not be much higher than it was prior to 1973-74 which means that its gearing ratios have fallen considerably. In addition, half the cost of the latest bid has been funded by ten-year facilities with three banks.

The acquisition has a modestly favourable impact on earnings, which stand to rise from roughly 48p to 48p per share. More important from the bidder's point of view is the fact that it will provide a relatively stable source of earnings.

Tate is sensitive about its unimpaired stock market image, which is reflected in a yield of nearly 8 per cent and a p/e of just over 5, and is largely the result of its heavy dependence on "commodity handling, trading, storage and distribution."

This is its extremely vague classification for a wide group of potentially volatile businesses which could account for roughly two-thirds of group profits in 1975-76. A probable motive for all this year's acquisitions has been Tate's wish to correct this imbalance, although Tate appears happy enough about the current trend of its "storage" earnings.

Longer term, the group is now wholly responsible for financing the contraction of the cane sugar refining industry, which could involve a total of perhaps 1,500 redundancies towards the end of 1977 and during 1978. It also has to fulfil its undertakings to the Government about how it will behave after it has swallowed Manbre, and it will probably want to think about its own customer relations too: Tate was evidently taken aback by the hostile reaction of the main consumer bodies to its takeover.

However, none of this seems likely to create any great strain for a group with combined cash flow of around £60m. The capacity problem would have had to be tackled in one way or another whatever happened. Not much has been disclosed about the deal with the Government which helped to steer the bid away from the clutches of the Monopolies Commission, but in any event Tate would obviously have had to tread carefully after a takeover of this kind. A promise to recognise any special trade terms traditionally extended to Manbre's customers in these circumstances, and although in the complete range of products currently produced by the two groups will have to be maintained for as long as customers require, it looks as though Tate will be allowed to rationalise common product lines.

Sweet success

In return for these promises, Tate now has complete control of an industry which has assured source of supply, stable demand, and inflation protected margins. It has overcome the threat to its market share posed by the expansion of the beet sugar industry. And it has im-

proved the overall balance of its profit and loss account. A bid which in the early stages appeared to face almost insurmountable hurdles has thus been bought smoothly to its conclusion with some time to spare.

### Import deposits

The surge in gilt sales over the past week has provided a very short-term solution to the problem of excessive monetary growth. But mopping up the surplus liquidity of the institutions is very much the easy first step, and in the next few weeks the discussion is going to centre on the next stages in the process of creating some kind of economic balance. The severity of the recent rise in interest rates, in disregard of the effects on industrial confidence, is reflection of the fact that there are no soft options left. In the background, of course, is the impending application for support from the International Monetary Fund, which will be asking for constraints much tougher than the current £3bn. limit on domestic credit expansion.

Speaking on television yesterday the Chancellor appeared confident that further fiscal measures could be avoided, and deprecated the introduction of widespread import controls as an answer to high unemployment. There are indications from Whitehall, however, that the potential impact of import deposits on the Government's financial deficit has not exactly gone unnoticed. The rise announced in July in National Insurance contributions showed that the Government is not averse to putting pressure on the corporate sector as it emerges into financial surplus.

How import deposits would further increase the squeeze on the corporate sector is a subject now examined by brokers Hetherwick Stirling, drawing on the precedents in the previous scheme which ran from November 1968 to December 1970. They estimate that a similar scheme — 50 per cent deposits for six months — would raise around £350m. There would have to be heavy-fading controls to prevent companies simply borrowing the cash. Short-term interest rates would remain high. During the first year of the 1968-70 scheme monetary growth slowed to 3 per cent, but naturally monetary problems tend to re-emerge when such a scheme is unwound.

## Fire cuts British Aluminium production by 7,000 tonnes

BY RHYS DAVID

A FIRE which has put half British Aluminium's Invergordon smelter in Scotland out of action is likely to cost the company several million pounds.

Lost production and damage to plant are still being assessed. It is expected to be 10 or 12 weeks before the smelter is fully back in operation.

The fire last week occurred in an electrical rectifier of current being supplied to the pot lines. The interruption in supply affected roughly half the plant, causing aluminium and flux to solid around 150 aluminium producing pots.

The solid will have to be dug

out of each pot individually, a long process.

Lost production, according to Mr. Ronald Utiger, managing director of British Aluminium, is likely to be about 6,000 to 8,000 tonnes — and the metal currently fetches £378 a tonne on the U.K. market — out of yearly production capacity around 100,000 tonnes.

Mr. Utiger said yesterday that the loss of production would be unlikely to result in any supply shortages in the U.K. The company, which uses a large part of its own production in fabricating activities such as foil manufacture, had already been offered aluminium from the Continent.

Loss of production comes with

some 15-20 per cent. ahead of last year's depressed levels, as a result of the piecemeal activity in the motor vehicle, packaging, and other industries.

Because of a strike affecting plants run by a Canadian parent, Alcan, another major supplier to the U.K. market, is operating a system of *force majeure* on its contracts. This is not thought to have created major difficulties yet.

Apart from its Invergordon production, British Aluminium can draw on supplies from two small smelters in the Scottish Highlands with a combined annual output around 35,000 tonnes.

## Bank confirms rise in industry loans

BY MICHAEL BLANDEN

THE STRONG rise in bank lending to manufacturing industry indicated by recent figures is confirmed by the latest analysis published by the Bank of England.

This shows that in the three months to mid-August, the level of advances to U.K. residents increased by £1,545m., excluding the direct effect of the depreciation of sterling on foreign currency borrowings.

Lending to manufacturing industry rose by £381m., the first increase recorded since the statistics were reorganised in May last year.

The rise was widely spread among the various categories of borrowers, and supports the recent evidence of renewed demand for loans provided by the monthly figures.

The growth in lending provides part of the background to the recent measures by the authorities to control the expansion of the money supply.

However, the most recent statistics have indicated that the increase up to July may have exaggerated the underlying trend, and partly reflected special factors including the impact of changes in leads and lags in external payments in response to the weakness of sterling earlier this year.

Lending to support manufacturing industry remains at the

top of official priorities as laid down in the guidance given to the banks by the Bank of England.

But demand in this sector has remained sluggish over most of the past year, with advances in sterling to manufacturing industry in the 12 months to mid-August rising by only £176m., or nearly 3 per cent.

In the latest three-month period, lending to the other production category also showed a sharp rise of £210m., largely accounted for by the mining and quarrying group which includes some North Sea oil operations.

Lending to agriculture, forestry, and fishing also went up strongly. Advances to the services group increased by £800m., of which some £200m. of that was in foreign currency and included borrowing by public bodies under the exchange cover scheme.

Advances to the personal sector rose by £135m., of which about £45m. was for house purchases.

Over the latest 12 months as a whole, total advances to U.K. residents by the banking system rose by £1,576m., (excluding the direct effect of exchange rate changes), of which £1,235m. was in sterling.

Bank lending figures, Page 34  
"Private borrowing crowded out," Page 10

## Continued from Page 1 Rhodesia

Government here rather than an attempt to close the door on negotiations.

There can be little doubt that all five Presidents — and the Rhodesian nationalist leaders who had been meeting with them in the Zambian capital — have been angered at the way Mr. Smith tried in his broadcast to suggest that whites would remain in control until the final transfer to majority rule in two years' time.

The particular bone of contention has been Mr. Smith's insistence that the proposed Council of State, to be composed equally of black and white members but with a white chairman, would be the "supreme body" with the Council of Ministers, which would have a black majority, in a subordinate position.

Not only did Mr. Smith suggest in his broadcast that the Council of State would be paramount, he has, it is understood, briefed members of his party caucus to that effect and news media here also have been making the same interpretation.

It is quite clear, however, that the African Presidents understood Mr. Kissinger's proposal to mean that power would reside in the Council of Ministers, with its African majority, and that the Council of State operating much as a government-general would be in a "normal" colonial situation. They understood the U.S. package to mean that there would be an African transitional government in power within the next few weeks.

A further point of difference also comes out clearly from the Lusaka communiqué: the African Presidents believe that there must be a formal conference, which they want Britain, with its residual colonial responsibility, to call, to negotiate the setting up of the transitional government. They mistrust Mr. Smith's intentions and believe it essential that Mr. Smith resigns on the establishment of the interim government.

They also believe that there should be a formal conference, again chaired by Britain, to work out the final constitution. Since not all the details of the Kissinger package have been released it is not clear whether this, or Mr. Smith's interpretation that the constitution should be formulated in Rhodesia, is the correct one.

However, it seems clear that in Lusaka African politics have intervened. President Neto of Angola, whose country has a heavy debt to the Soviet Union, has expressed his support for the Kissinger proposals before he arrived in Lusaka. It is felt that there may be divisions within the Mozambique Government about the relevance of a Rhodesian-negotiated settlement on the U.S. terms, while, on a different level, there is also apparently opposition from some of the Rhodesian guerrillas based in Mozambique.

## Ministry of Defence may lose more staff

BY DAVID CHURCHILL, LABOUR STAFF

FURTHER cuts of at least 10 per cent in the manpower of the Ministry of Defence, the largest Civil Service department, are included in a confidential review team report now in the hands of senior Whitehall officials.

The staff cuts will mean nearly 3,000 fewer MOD posts by 1979 and will come mainly from senior Whitehall Civil Servants in the department, including some cuts at deputy and under-secretary level.

The MOD's scientific research and development establishment is likely to be particularly hard hit. Cuts of up to 40,000 other MOD posts, announced earlier this year as part of the Defence Review and other cost-cutting exercises, will mainly come from clerical and junior grades and industrial Civil Servants at home and abroad.

A small working party of top Civil Servants in the Ministry will be set up to consider ways of implementing the review team's proposals.

The review team, headed by Mr. Kenneth Macdonald, an assistant secretary, spent the last six months examining all aspects of MOD structure and administration with a view to cost-saving.

Its most controversial proposals are expected to be further attempts to bring the procurement executive back under control of the separate service chiefs and out of civilian hands. The procurement executive, set up four years ago as a separate entity within the MOD following the Rayner report, gives a service from the initiation of research to the provision of hardware for each of the forces. It accounts for the largest group of the MOD's administrative personnel, and is predominantly staffed by civilians.

Civil services unions are believed to be angry over the review team's proposals, claiming that they hurt the civilians in the central administration while leaving the services bureaucracy virtually untouched.

The unions had hoped that the review would seriously consider streamlining the present triplicate MOD structure which would release services personnel from doing civilian work.

At present each separate chief of staff for the Army, Navy and Air Force has to be supported by a full secretariat of civil servants representing just his service. This triplication is continued throughout the services structure with each service, for example, maintaining separate recruiting and training systems.

The unions would like to see a centralised MOD administration with separate, civilian-staffed executives similar to the procurement executive.

## Leyland buses in Singapore tests

BY TERRY DODSWORTH, MOTOR INDUSTRY CORRESPONDENT

A FLEET of 20 Leyland double-deck buses is going into service in Singapore for an evaluation exercise similar to one being conducted with eight vehicles in New York.

The deal with Singapore is another indication of rising world interest in double-deck vehicles to make better use of congested city roads. Singapore will be using Leyland Atlanteans, which cost about £30,000 each.

Leyland, the only major supplier of double-deck buses and has a wealth of experience of manufacturing these vehicles for all types of climates from the U.K. to South Africa, Hong Kong and Iran.

At present it is adopting a cautiously optimistic attitude towards these new orders. It has proved notoriously difficult in the past to convert interest in double-deckers into hard

## French say 'Yes' to British accountants

By Michael Lafferty

THE LONG-RUNNING dispute between the French accountancy profession and the international accounting firms operating in France, most of them being of British origin, may be nearing its end.

This follows last week's decision of the French Ministry of Education to recognise the qualifications of seven British chartered accountants, partners in the Paris offices of four international accounting firms, as being equivalent to those of French accountants. They include four Price Waterhouse partners, two Arthur Young partners, and two from Turquand Barton Mayhew.

To obtain recognition, each of the seven had to undergo a 15-minute oral examination before a Government-appointed committee last May. They also had to give details of their experience and education. Exam questions covered professional ethics, inflation accounting, taxation and accounting principles.

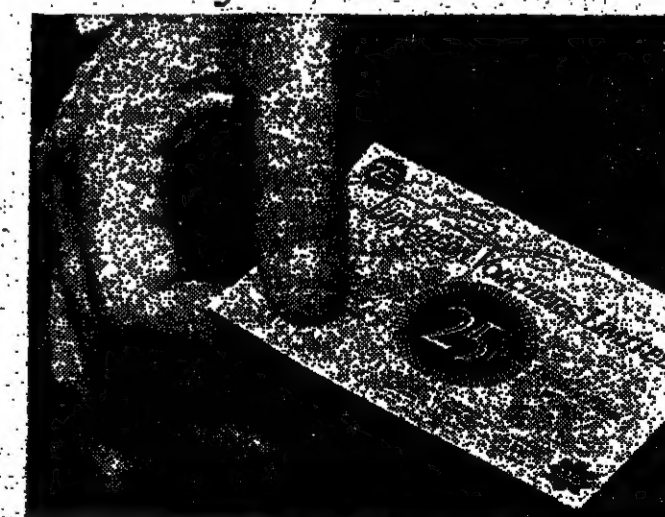
### Second group

A second group of eight partners took the examination on June 24, and another group of 15, including the senior partners of Price Waterhouse, Whimsey, Murray Ernst and Ernst, and Turquand Barton Mayhew, are due to go before the committee on Thursday.

The international firms had been tolerated, mainly because they confined their activities to subsidiaries of U.S. and U.K. companies.

But the problem erupted into open conflict a few years ago when it became clear that the international firms were making big inroads into French industry. This led to demands from prominent French accountants that the international firms be banished from France.

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